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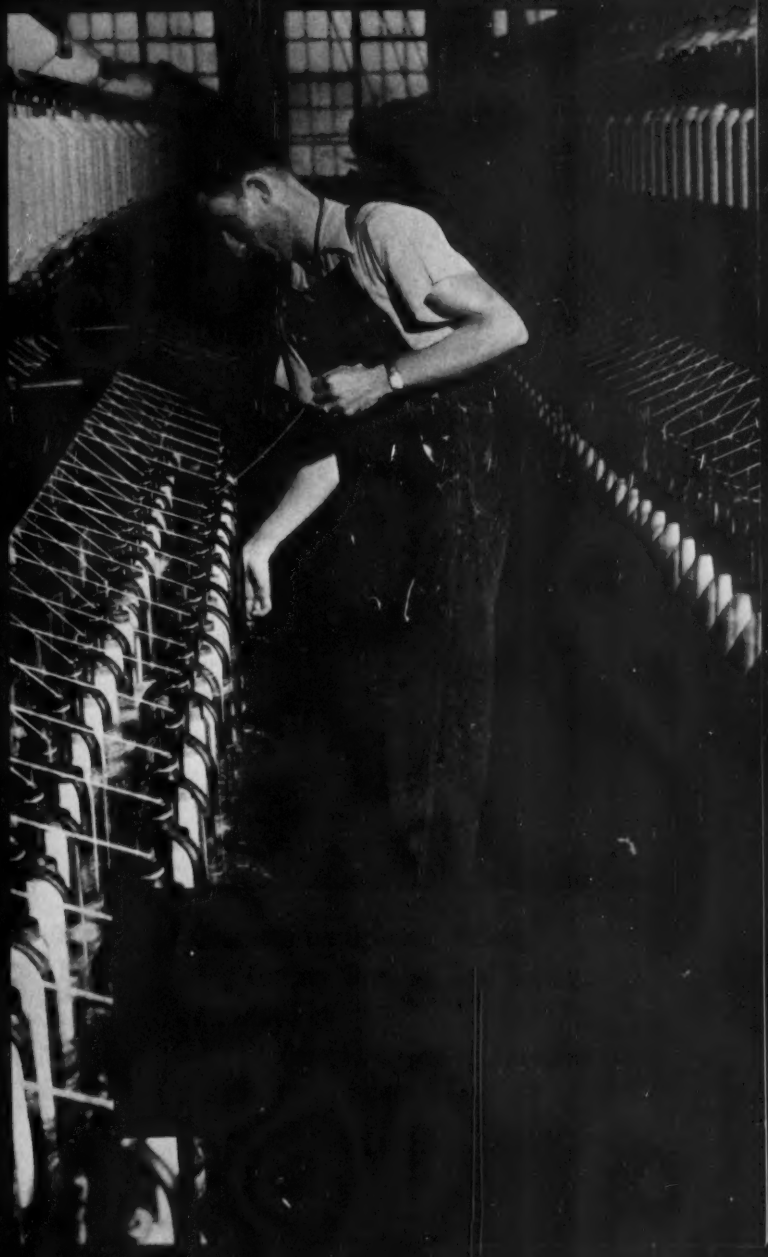

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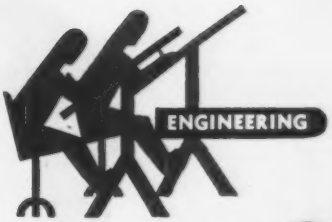

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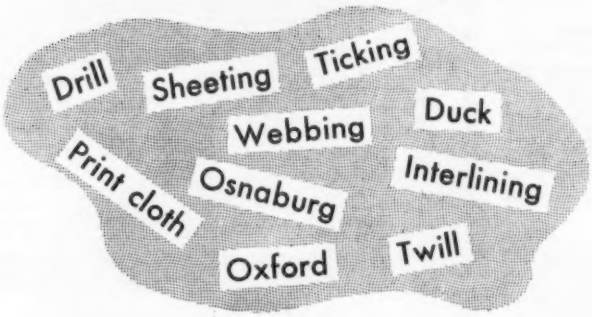
THE *Long-Range* VIEW



Give Them Cloth Now!

Twice in the last month or two we were present when the Quartermaster Corps made strong appeals to mills to take Government orders. We were impressed by two facts: mill men were lukewarm to the idea of taking Government orders, but they were insistent in their demands for fewer controls and more favorable ceiling prices.

On one of those two occasions, the Quartermaster General announced that "inductees are provided fewer clothing items than are called for in regular-issue tables." There was no response—at least, at the meeting. But when there was some question a few minutes later about what the base period for ceiling pricing (and therefore the margin of profit) would be, the response was very strong.

We have no inclination to commit the error in taste of taking advantage of a patriotic problem to get off a few high-sounding phrases.

One of the things that worries us about this business is that it puts the textile industry in a bad light. It also makes our speeches about free enterprise sound hollow. We are quick and vigorous in claiming our rights to make money, but we are culpably slow in shouldering our responsibility to provide textiles for our own fighting men.

It is fine for textile-industry leaders to whoop it up for the great American tradition of free enterprise. It is fine, too, to try to sell the democratic way of life.

But something like three million American men and boys are away from their homes and families actively defending the free-enterprise system. They are protecting the right of textile men to make proud speeches at the booster clubs. And while the speeches are being made and mills are humming at near top-rate production, those Service Men do not have enough clothing, mattress covers, pillowcases, sheets, bedticking, and a number of other textile items.

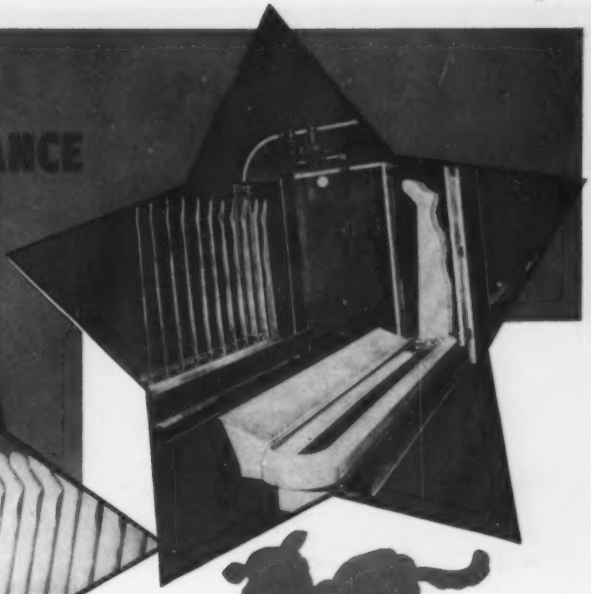
We are entirely aware that "whipping boys" can be found to lay much of the blame on. Washington is utter confusion; mill men don't know where they stand. Union leaders are playing national politics; textile union leaders are playing internal politics, and they deliberately choose a time of confusion and urgent need to strike. Politicians at all levels try to seize an opportunity to make personal gains.

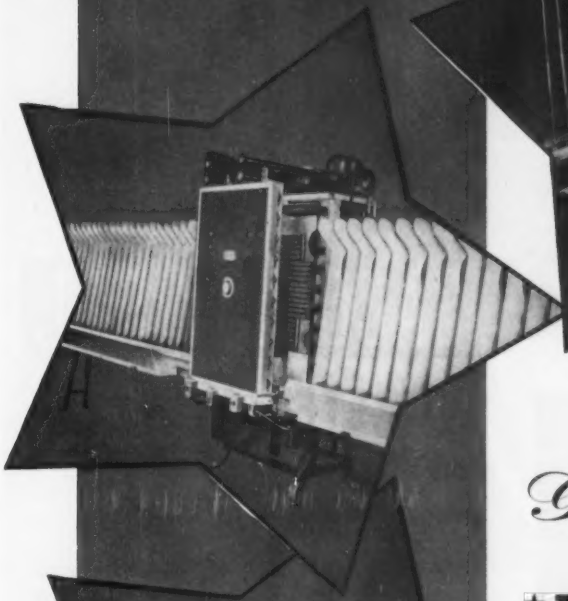
We can find an excuse if we look for it, all right. But an excuse is no good. Men are in the Armed Services, and more and more will go in. They've got to have textile materials. It's not enough now to talk; it's time for action. It's time to get cloth to the Quartermaster Corps—for the men in Korea, Europe, the United States, and elsewhere.

We are absolutely certain that the textile industry will come through with as much production as the Armed Forces need. Our great hope is that it will do it gracefully, generously, and quickly. The way to do it, of course, is to find out what the Quartermaster Corps needs that you can make; then change over the necessary spinning frames and looms as quickly as possible.

O. M. Thomas

3-STAR PERFORMANCE





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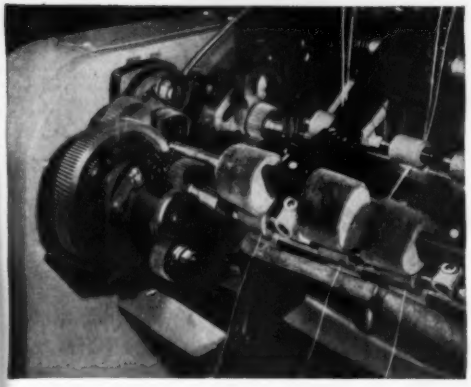

Gear cover raised to show the draft gearing, and with drafting rolls down in operating position.

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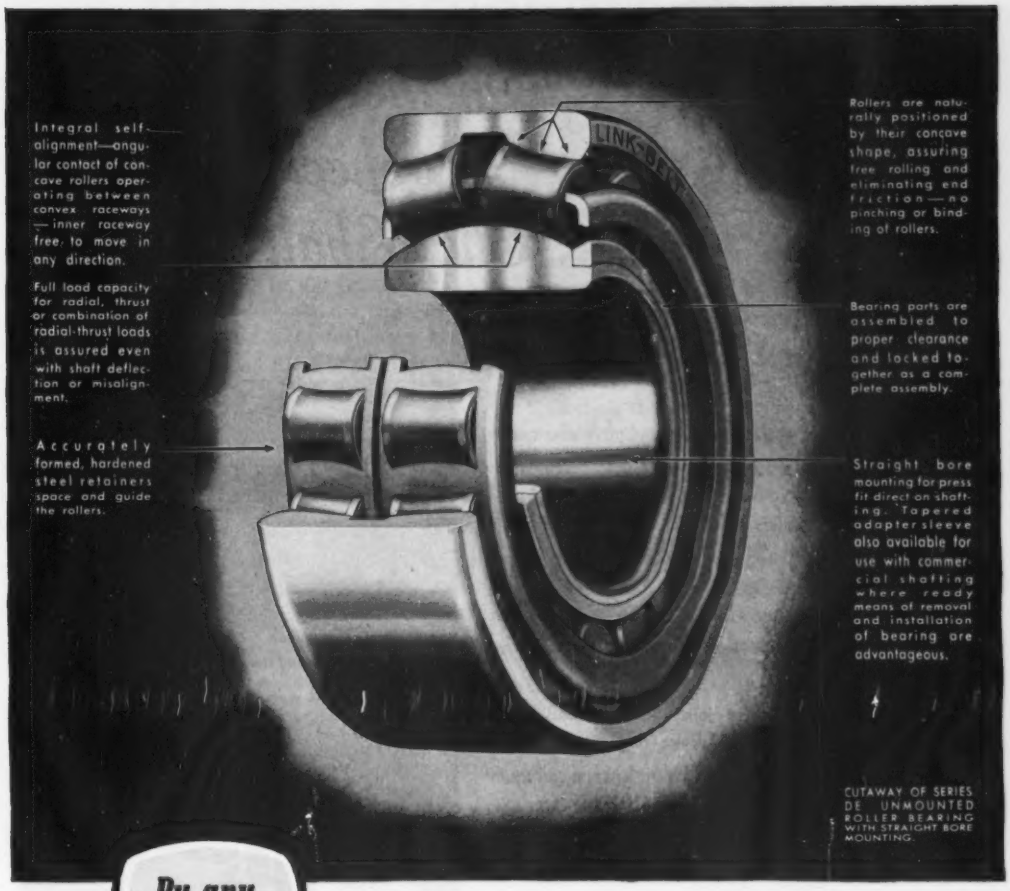
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. . . those words, spoken by a redoubtable seer nearly 2000 years ago, have probably never been so pertinent as they are today. For today's most carefully computed prediction may prove completely false tomorrow. *We* certainly are not attempting to prophesy anything, but are simply keeping "our noses to the grindstone" doing all we can to provide the textile industry with top quality chemicals that assure better and more economical processing, and *superior products*.

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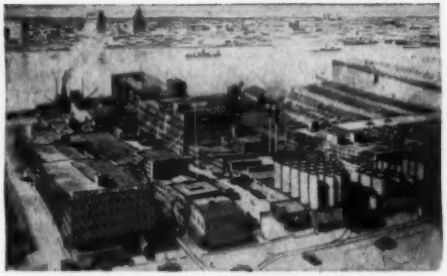
As you go to work today in the interests of national defense, remember, too, that we are ready to make recommendations and supplement laboratory data with technical aid right in your mill. It will remain our fixed policy to serve you to the best of our ability, *come what may.*



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Total Solids, %	30-35	30-35	30-35
pH Range	9.5-10.5	9.5-10.5	9.5-10.5
Surface Tension (dynes/cm)	30-40	30-40	30-40
Viscosity (cps)	30 max.	30 max.	30 max.
Specific Gravity (dried solids)	1.01	1.01	1.01
Stabilizer	Ammonium Soap	Ammonium Soap	Ammonium Soap
Anti-oxidant	None	Non-staining	None
Color	White	White	White
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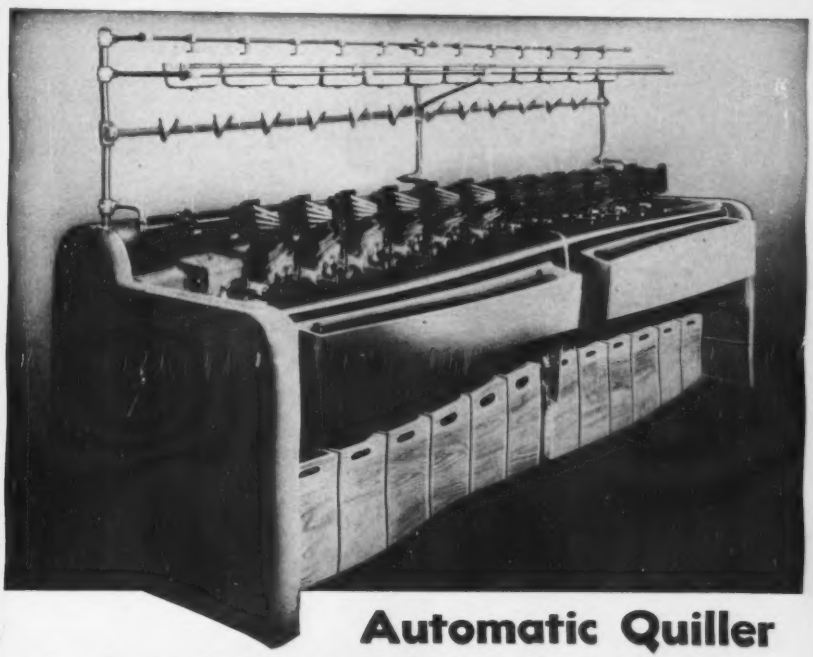

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"Inspiration comes easy," says Miss Chapman, "when a fabric lends itself to creative work. PROPER PROCESSING does *so* much for a fabric—actually *inspires* good design by the wealth of life and luxurious texture it brings out."

Top designers from coast to coast agree with Miss Chapman. Reason enough for the choice of Colgate-Palmolive-Peet wetting, scouring, fulling and dispersing agents by so many leading American mills, converters, finishers and dyers.

Whatever your fabric, whatever your processing problem, there is a C. P. P. soap or synthetic detergent perfectly suited to your needs. It will pay you to ask your local Colgate-Palmolive-Peet representative for details . . . or, write today to

INDUSTRIAL DEPARTMENT,
COLGATE-PALMOLIVE-PEET CO.
Jersey City 2, N. J.

COLGATE FORMULA 25
For low-temperature washing ordinarily requiring olive oil soaps. Sold in eastern states only.

COLGATE WHITE SOAP FLAKES
High-grade thin white flakes. Not milled or polished. 90% anhydrous soap.

ARCTIC CRYSTAL FLAKES
Made from pure tallow, guaranteed to contain 88% or more soap. Titer approx. 42°C.

ARCTIC SYNTEX A AND T
Synthetic detergents and wetting agents. Unsurpassed for many processing operations.

MENTOR BEADS
An alkyl aryl sulfonate detergent . . . of high purity . . . stable in acid and alkali . . . outstanding detergent and wetting properties. Sold in eastern states only.

FREE! *New 1951 Handy Soap Buying Guide . . . Tells you the right soap for every purpose! See your C.P.P. representative, or write to our Industrial Department.*

Colgate-Palmolive-Peet Company

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Reflections OF AN Engineer

To the progress
of machine design
and the efficiency of
American manufacturing,
New Department has
contributed more than
half a century of experience,
knowledge and resources.

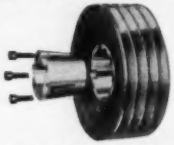
Nothing Rolls Like a Ball...

NEW DEPARTURE
BALL BEARINGS

NEW DEPARTURE • DIVISION OF GENERAL MOTORS • BRISTOL, CONNECTICUT

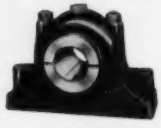
126

IF IT'S DODGE -IT'S DEPENDABLE!

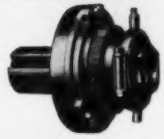


TAPER-LOCK SHEAVES: Patented. Taper-Lock is the world's simplest mechanism for mounting wheels to shafts. Easy on—easy off! 476 stock sizes in A, B, C and D grooves.

TORQUE-ARM SPEED REDUCERS: America's most complete line of shaft mounted speed reducers. Capacities from 1 to 27 h.p. Output speeds from 12 to 330 r.p.m.



DODGE-TIMKEN BEARINGS: Mounted units, proved in millions of industry's toughest jobs. The famous 30,000-hour line. Four types to choose from. Sizes from 1-3/16" to 8".



ROLLING GRIP FRICTION CLUTCHES: No toggles! Compact, flexible, smooth and DEPENDABLE. Bolted plate and gear tooth plate. 1.3 to 21.2 h.p. at 100 r.p.m.

SLEEVOIL BEARINGS: Precision built, exceptionally quiet, thoroughly dependable. "Tops" for fan and blower service. Sizes 1-7/16" to 8" in both plain and water cooled types.

SOLID STEEL CONVEYOR PULLEYS: Maximum strength, minimum weight. *Modern* pulleys with interchangeable hubs that cut installation cost. Diameters 6" to 8'. All face widths.

DODGE SEALED-LIFE V-BELTS: Special protection for tension members insures longer belt life. Perfectly matched to Taper-Lock sheaves for best performance.

DODGE TAKE-UPS: Modern, rugged, dependable. Roller bearing (illustrated), ball bearing and babbitted. Shaft sizes from 3/4" to 4". Travel from 4" to 36".

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MANUFACTURERS OF A BROAD LINE OF MECHANICAL POWER TRANSMISSION MACHINERY

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ORIGINATORS OF NEW AND BETTER PRODUCTS FOR THE MECHANICAL TRANSMISSION OF POWER

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DODGE MANUFACTURING CORPORATION, 1400 Union St., Mishawaka, Ind.

CALL THE TRANSMISSIONEER: Most Dodge products are normally available from distributors' stocks — in your territory — when you need them. For information on the newest and best methods of mechanical power transmission, call the Dodge Transmissioneer, graduate of the Dodge factory course. He is your local Dodge Distributor. Look for his name under "Power Transmission Equipment" in your local classified telephone directory.

PILLOW BLOCKS: Roller Bearing, Ball Bearing, Babbitted. **FLANGE BEARINGS:** Roller, Ball, Babbitted. **HANGER BEARINGS:** Roller, Ball, Babbitted. **TAKE-UPS:** Roller Bearing, Ball Bearing, Babbitted. **BASE PLATES. FLOOR STANDS. DROP HANGERS. V-BELT SHEAVES:** Both TAPER-LOCK and Bored-to-Shaft-Size. **BELTS:** Industrial and FHP V-Belts and Flex-Link Belting. **SPEED REDUCERS:** TORQUE-ARM Shaft Mounted Speed Reducers. **CLUTCHES, FRICTION:** Rolling Grip, Diamond D and Solid Types. **COUPLINGS:** TAPER-LOCK Flexible, TAPER-LOCK Rigid and Flange Types. **SAFETY SET COLLARS. PULLEYS:** Steel Split Transmission and Solid Steel Conveyor Pulleys. Rubber Lagging. **VISES:** SLIDE-SET Machinist's...FOR COMPLETE LINE, TYPES AND SIZES, WRITE FOR BULLETINS AND 224-PAGE CATALOG.

DODGE

of Mishawaka, Ind.

"First in Power Transmission Machinery!"

NEW SCRUBBER-VAC

Cuts Cleaning Time 2/3

FOR SMALL-AREA MILLS

- Specially designed for buildings with 2,000 to 15,000 sq. ft. of floor space
- Applies the cleanser, scrubs, rinses, and picks up in ONE operation
- Also handles the dry work — steel-wooling, polishing, et cetera
- Can be leased or purchased (leasing budgets cleaning expense)

Now the labor-saving advantages of *combination-machine-scrubbing* are available to small as well as larger mills. The *new 418P Finnell Scrubber-Vac*, for small-area buildings with 2,000 to 15,000 sq. ft. of floor space, cleans floors in *approximately one-third the time* required with a conventional 15 or 18-inch scrubber-polisher using separate equipment for picking up. A *Finnell Scrubber-Vac* speeds cleaning by handling four operations in one! It applies the cleanser, scrubs, rinses if required, and picks up (damp-dries the floor) — all in a single operation.

Of narrow design, the *new 418P Scrubber-Vac* also meets the need in larger mills for a combination machine that can be used in congested areas, narrow aisles, and weave room alleys. All the refinements of *Finnell's* larger combination machines are embodied in this smaller unit (18-inch brush ring). Has new type of water valve that *assures* uniform flow of water . . . powerful vacuum for efficient pickup (performs *quietly*) . . . a *Finnell-developed* trouble-free clutch . . . self-winding cable reel . . . improved waterproof wiring and minimum electrical connections, simplifying the cleaning of the machine . . . G. E. Motors and Timken Bearings. The machine is self-propelled — operator merely *guides* it. Supplied with or without powder dispenser. Incidentally, it's good to know that when you choose *Finnell Equipment*, a *Finnell* man is readily available to help train your maintenance operators in its proper use.

SEE IT IN ACTION ON YOUR OWN FLOORS!

Find out what you would save with a *Finnell Scrubber-Vac*. *Finnell* makes several models and sizes. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 1905 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC.

Pioneers and Specialists in

FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

BRANCHES IN ALL PRINCIPAL CITIES

SANDOZ PRESENTS *The color achievement of the month*

VIOLET-ever fresh . . . BY PACIFIC MILLS

Here man outdoes nature . . . with a violet shade that holds its freshness.

It's Pacific Mills' "Parma Violet", a spring color that will *stay* spring, keeping this suit of sheer gabardine worsted as continually young as the girl's complexion.

New permanence in violet shades —formerly considered difficult to achieve—results from the use of three patented Sandoz dyestuffs having excellent fastness to sunlight, perspiration and dry cleaning:

ALIZARINE LIGHT VIOLET RCN Pat.
ALIZARINE LIGHT VIOLET 2RC Pat.
BRILLIANT ALIZARINE LIGHT VIOLET FFR Pat.

A delight to the wearer, they are also a favorite of dyers and finishers, too. They are unsurpassed for level-dyeing properties, even in the lightest shades, and retain their full brightness throughout processing.

For *any* chrome, acid or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you see in these Sandoz advertisements.

NOW — DIRECT-DYE COTTON AND RAYON THE "TRIPLE-FAST" CUPROFIX WAY!

New Sandoz CUPROFIX colors and after-treatment give cotton and rayon fabrics a high degree of fastness to washing, perspiration and sunlight — comparable to more expensive vat dyeing. CUPROFIX *alone* gives you *triple* fastness in direct dyeing. Write for booklet on CUPROFIX, already adopted by many mills.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N.Y.

Application laboratories and stocks at Boston, Philadelphia, Charlotte, Chicago, Los Angeles, Toronto • Other branches at Providence, Paterson and Montreal

SANDOZ *thinks ahead with textiles*

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PRODUCE!

Today, America's mighty production machine must meet the biggest order in history. It must produce enough to defend freedom and to maintain our economy!

As manufacturers of lubricants—the *one* product indispensable to *all* industry—our part in this tremendous job is to help your machines run at peak capacity . . . provide more continuous production, minimize downtime.

Toward this end, we pledge all our resources —offer you . . .

- **A complete line of proved quality oils and greases for all your needs.**
- **The services of our staff of lubrication engineers—largest in the industry.**
- **The facilities of our complete research laboratories.**
- **Our lubrication knowledge—acquired through 85 years of experience.**

Call on us *any time*.

SOCONY-VACUUM OIL CO., INC., and Affiliates: MAGNOLIA PETROLEUM COMPANY GENERAL PETROLEUM CORP.

SOCONY-VACUUM

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Correct Lubrication

WORLD'S GREATEST LUBRICATION KNOWLEDGE AND ENGINEERING SERVICE

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Maintenance Men:

Cut down paper work!

No need to search catalogs, put all your mill supplies on one order to Atkinson, Haserick & Co. We will ship every item in the quickest possible time. Make us responsible for stockroom replacements *and* rush parts. Mail, wire or phone your troubles to us.

Get all mill supplies on one order!

Bobbins: American & English
Bands: Braided & Double Loop (Cotton & Nylon)
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Caps, Tubes & Spindles
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Drawing Fliers
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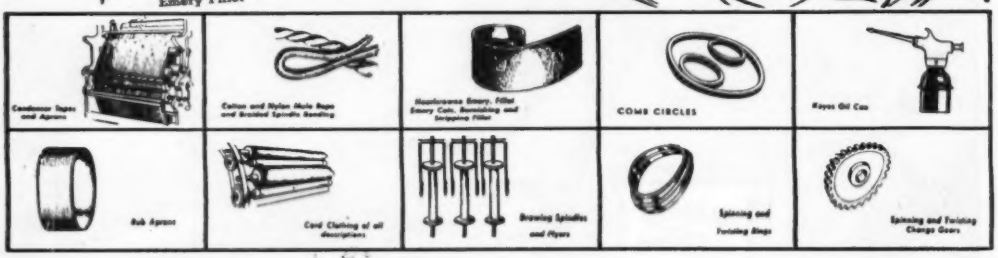
Tapes: Twisting & Spinning
Thread Spools, Wooden
Top Rolls: Ball Bearing & Ordinary
Yarn Guides, Plastic and Porcelain



An American Institution for 128 years

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BUSINESS ESTABLISHED 1823
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HOLDSWORTH GILL SCREW CO., INC. — PLATT BROS. (SALES) & CO., LTD.
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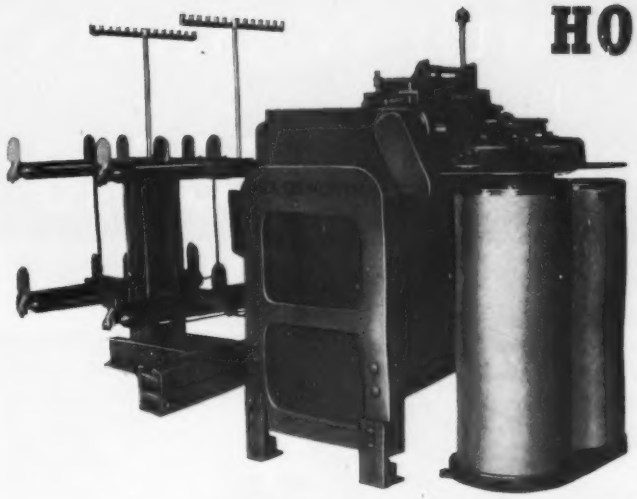

HOLDSWORTH Gill Reducer

Simplicity pays-off...

For The OPERATOR

Fewer red-lights! This machine just keeps running and running. Mechanical simplicity reduces the chance of stoppages; makes maintenance easier. For instance, the screws are pretimed at the factory and *remain* that way when the head is opened for cleaning or faller replacement. With each new installation, a Holdsworth factory man works with your operator, insuring initial optimum production.

For MANAGEMENT

Except for daily reports of top quality production, you will almost forget you have Holdsworth Gill Reducers running. Streamlined designing, well machined parts and a sturdy frame keep them off the worry list.

For The INVESTORS

Two end deliveries for the price of only *one* machine! The price is the lowest in the field, too. Production per machine, per dollar invested is greater than was previously attainable. Although the Holdsworth Gill Reducer has been on the market only a year, the greater percentage of orders on hand are re-orders from mills now operating test installations! What better reason could you have for investigating this machine yourself? Write or phone us for full data.

Español

El diseño simplificado reduce los riesgos de parada en el trabajo; hace más fácil la conservación. Los tornillos permanecen engranados cuando se levanta el cabezal. Bastidor resistente y piezas elaboradas a máquina.

Una máquina produce dos entregas. Es la máquina de menor precio en el ramo. La mayor parte de nuestros pedidos son repetidos de fábricas que trabajan actualmente instalaciones de ensayo. ¿Nos permite enviarle datos completos?

HOLDSWORTH GILL SCREW CO., INC.

EXCLUSIVE SALES AGENT

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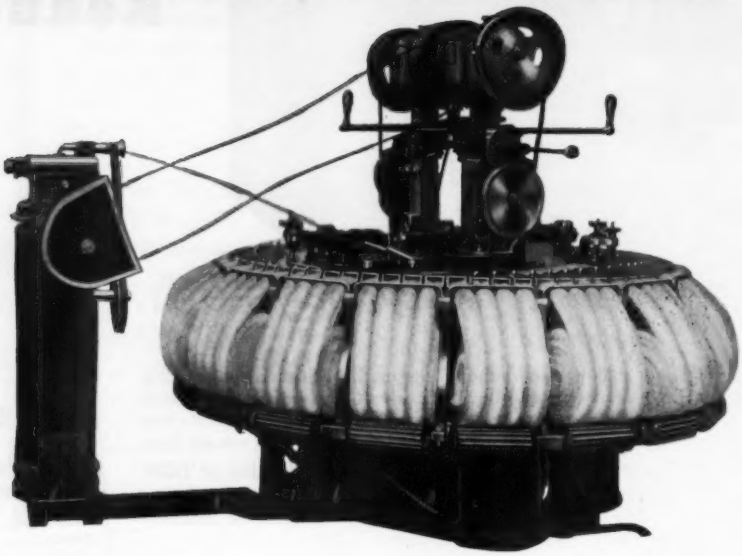
Prince-Smith & Stells

Improved NOBLE COMB



IMPROVED

Perfectly balanced dabbing motion reduces vibration and wear.

Circles with different pinning for certain qualities of wool and other fibers are interchangeable without disturbing the gearing.

New stop motion is highly sensitive to laps on the aprons. Eliminates risk of damage to drawing-off aprons and circles.

IMPROVED

P.S.B. roller stand allows adjustment of pressure while in operation and guarantees an absolutely equal pressure at each end of the roller.

New type circle cleaner raises residual fibers to the top of the pins.

The "Perfect" feed knife maintains ideal feeding conditions automatically and eliminates the human element.

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INQUIRIES TO *Agents, U. S. A.-French system machinery. Blake Electric Mfg. Co., 43 Commercial Wharf, Boston 10, Mass.*

P-S-S AND STELLS LTD

PRINCE-SMITH & STELLS
LIMITED
INCORPORATING TAYLOR WORDSWORTH & CO. LTD.
KEIGHLEY — ENGLAND

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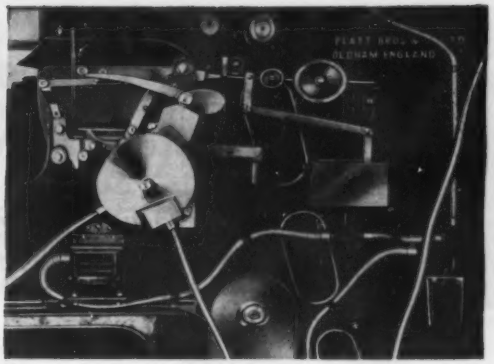
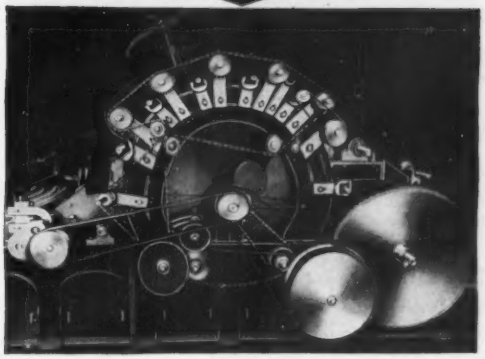
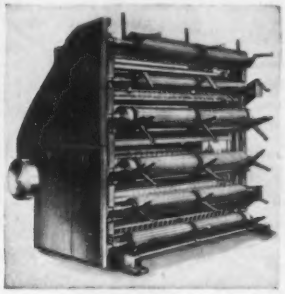
New ADVANTAGES *of Platt woolen cards*



Electrically governed weighing mechanism stops overfeeding because there is no time lag as in old mechanical arrangements. This patented device is another standard equipment advantage of Platt Cards.

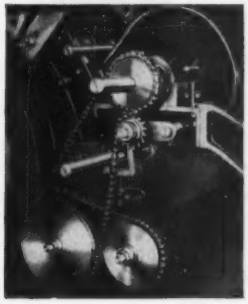


Variable speed drive of workers raises production by producing better roving with less fibre breakage. The Platt-Marsden patent alternative speed drive to workers, which is now fitted as standard on Platt carding engines, enables the speed of workers to be modified to suit any particular material. This arrangement permits a wide speed variation and since the worker drive is quite independent of that to the doffer, the speed of the latter can also be changed without any interference with the speed of the workers. This permits any desired combination of worker and doffer speeds to be used.



New tape condenser with multiple speed drive for rubbing motion has patented motor shaft drive, adjustable from 200 to 600 r.p.m., to vary the amount of rub.

These are only a few of the advantages of Platt Cards, in fact we have a book of 102 pages of them which we will send upon request.



Independent fancy drive permits varying its speed to suit various types of materials being processed. It also eliminates nailing laps of leather to the fancy pulley.

MACHINERY OF:

PLATT BROS.

(Sales) Ltd. • Oldham, England

INCLUDING THE MACHINERY OF:

PLATT BROTHERS & CO., LTD. — DOBSON & BARLOW, LTD.
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YOU ARE INVITED TO EXAMINE PLATT BROS.
COTTON MACHINERY AT OUR CHARLOTTE DISPLAY ROOMS

Century 1 TO 400 H.P. MOTORS

Choose From These Many Types To Fit Your Job

DEPENDABLE CONSTRUCTION . . . Plus

PROPER SELECTION MINIMIZE SHUTDOWNS

Century Electric Company is celebrating its 50th year in the electrical industry.

It's easy to select the proper electric motor for your job from Century's complete line — from 1/6 to 400 horsepower. A wide range of types and kinds are available to satisfy all popular requirements. They are carefully designed, built and tested to assure maximum performance throughout their long life.

Here are examples of Century's line of INTEGRAL HORSEPOWER motors.

Polyphase

TYPE SC—Open Drip proof General Purpose Motor. Meets the needs of most installations where operating conditions are relatively clean and dry.

TYPE SC—Splash proof. Supplies protection where plants must be washed down. Keeps out all falling or splashing liquids—rain, snow, sleet, etc.

TYPE SC—Totally Enclosed Fan Cooled. Protects against dusts, mist, oil, fog. Inner frame protects vital parts of the motor, seals out harmful matter.

TYPE SC—Explosion proof. Protects life and property in atmospheres charged with explosive dusts or gases.

TYPE SR—Wound Rotor. Open Construction. Ideal for applications requiring low starting current with high starting torque, reversing or adjustable speed.

TYPE SR—Wound Rotor Splash proof. Same electrical characteristics as motor shown above. In addition, gives adequate protection against falling and splashing liquids.

Single Phase

TYPE RS—Repulsion Start Induction, Open Construction, Single Phase Brush Lifting Motor. Combines high starting torque with low starting current.

TYPE RS—Splash proof. Same advantages as open construction, plus protection against splashing and falling liquids.

TYPE CSH—Capacitor Start Induction, Single Phase Motor. Suitable when high starting torque with normal starting current is satisfactory.

TYPE CSH—Splash proof. Same advantages as motor shown above, plus protection against falling and splashing liquids.

Direct Current

TYPE DN—Direct Current Motors. Suitable for use where direct current is available, or its use desirable.

TYPE DN—Direct Current, Splash proof.

TYPE SY—Synchronous. Suitable for continuous operation at a uniform load for power factor correction.

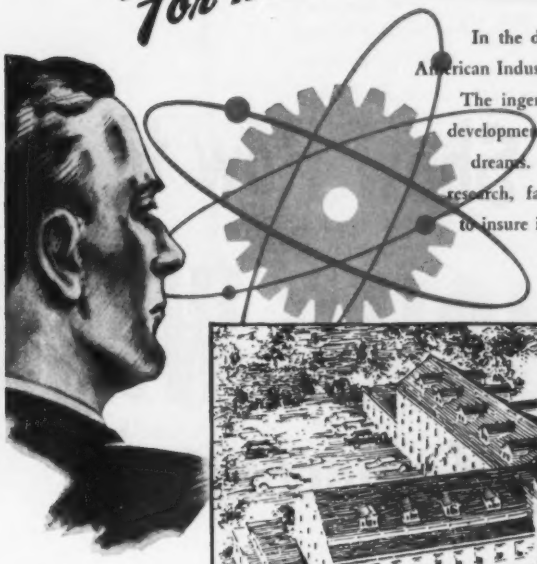
In addition to a complete line of integral horsepower motors, Century offers fractional horsepower motors, gear motors, generators, AC and DC motor generator sets.

For a long life of satisfactory performance, specify Century motors for all your electric power requirements.

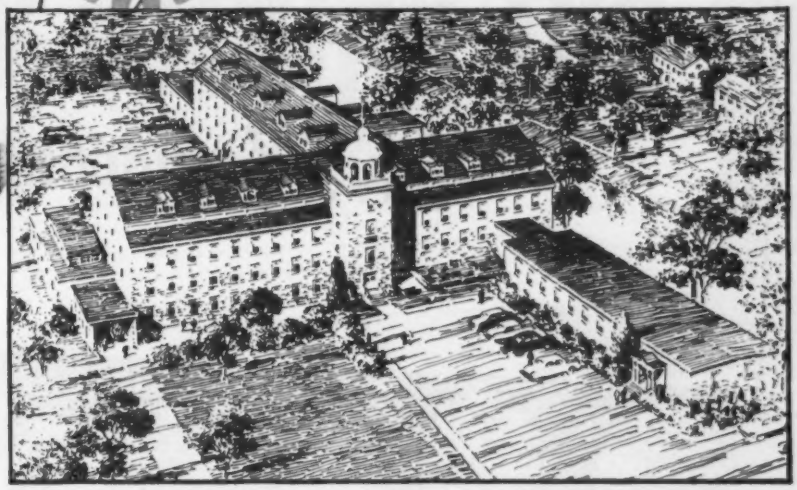
CENTURY ELECTRIC COMPANY, 1806 Pine Street, St. Louis 3, Missouri • Offices and Stock Points in Principal Cities

HEADQUARTERS

For men who look beyond tomorrow



In the development of machinery for the Textile Industry, as in American Industry as a whole, progress is guided by men of vision. The ingenuity, skill and perseverance of its research men and development engineers have given form and substance to yesterday's dreams. Too often industry overlooks the importance of constant research, failing to recognize the need for adequate facilities to insure its continued progress. By providing new and expanded research facilities, Whitin confidently faces the future.



New Home for Whitin Research and Development

This fine, old stone mill adjacent to our main plant has been completely renovated. Lighting, humidity and temperature control devices of the most modern type provide ideal mill operating conditions.

More than fifty of Whitin's latest-model machines are on display in an area approximating 25,000 square feet. In addition, a library, sales conference rooms and a completely equipped testing laboratory are included. Facilities are available for testing not only fibers of all kinds, but also the machinery on which they are processed.

An equal amount of space has been provided for the Research and Development Engineering Division and Experimental Machine Shop. The entire building is manned by a staff of textile technicians combining their skills for one purpose—to maintain Whitin leadership in making textile machinery better.

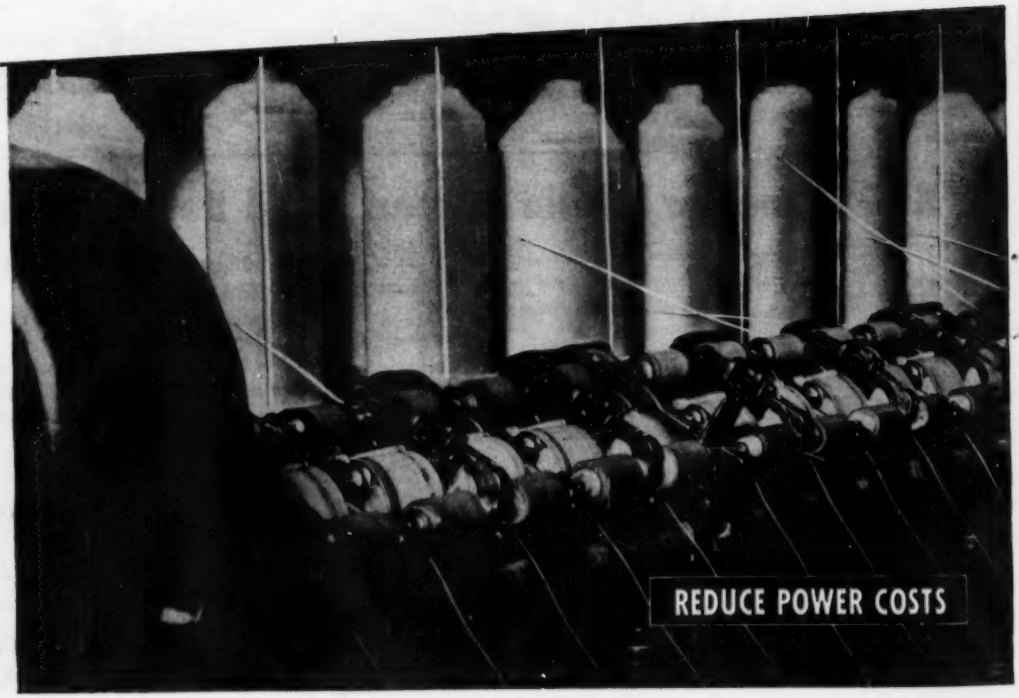
A complete description of this new Division will be available in the March - April issue of the Whitin Review.

Whitin MACHINE WORKS

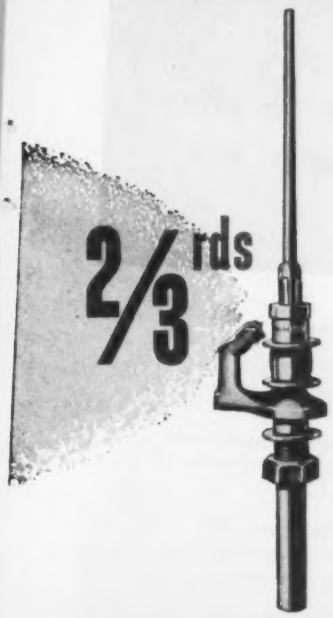
WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

Tests Show How to CUT BOLSTER WEAR —Save Replacements



For more information, write direct or use Reader Service post card.



Two-year field tests show that Sinclair Compounded Lily White Oils, AX, BX, CX, cut bolster wear up to two-thirds!

This oil can thus save a lot of bolster replacements—especially important in these days of shortages. Less wear also means less spindle wobble, thus reducing power demand and thread breakage and permitting use of a larger package.

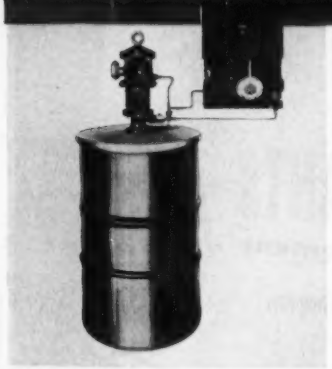
All together, these advantages make Sinclair Lily White Oils important assets to any textile mill.

SINCLAIR
TEXTILE LUBRICANTS
Save Wear and Replacement

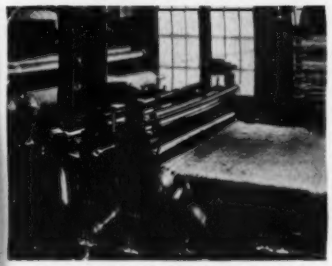
For lubrication counsel see your nearest Sinclair Representative or write direct to Sinclair Refining Company, 630 Fifth Avenue, New York 20, N. Y.

For more information, write direct or use Reader Service post card.

Lincoln's



Power-Operated Drum Pump. Time Clock Controlled.



Close-up view of Automatic Card Feeder showing Injectors connected to bearings.

***Controlled Application of Lubricants* is the Only Positive Method to Practice Preventive Maintenance**

Consistent with the numerous advanced engineering features incorporated in the revolutionary Duesberg-Bosson Woolen Cards, is the Lincoln Centralized Lubrication System.

The System automatically provides Controlled Application of lubricant to 500 bearings on each Card, simultaneously, at predetermined time intervals while machine is operating.

Lubricant is delivered from original refinery drum by an Air-Motor Operated Pump, time-clock controlled, through a single supply line to lubricant Injectors connected to each bearing by rigid or flexible tubing. Injectors are adjustable externally to assure injection of exactly the right amount of lubricant to each bearing.

Lincoln Centralized Lubrication applies the right lubricant, in the right quantity, at the right time . . . reducing bearing wear and down-time for costly repairs. It does away with haphazard, time-consuming "grease gun" or "oil can" lubrication, reducing maintenance and operating costs.

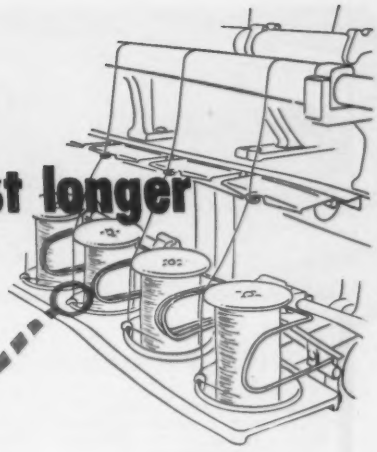
Lincoln Centralized Lubrication Systems have been installed on a wide variety of textile machinery, both old and new, in leading mills. Actual case histories prove remarkable savings. Write for name of your nearby Lincoln distributor who will work with you and recommend the time and money-saving Centralized Lubrication System best suited to your equipment.

• • • PIONEER BUILDERS

LINCOLN

LUBRICATING EQUIPMENT • • •

Nylon plastic travelers last longer



need far less lubrication, provide more yardage on bobbins, cut costs.

Actual tests in many mills show that you can get better performance and reduce operating costs with nylon plastic travelers. Molded of Du Pont nylon, with its low coefficient of friction, these travelers need far less lubrication than those made of other materials. And nylon's toughness means long life . . . less machine down-time for changing travelers.

You get more yardage on present bobbins, too, because nylon travelers, with their lighter weight and low-friction surface, provide smoother operation. In many installations, they permit higher spindle speeds, minimize ballooning, and cause less end-breakage even though higher tensions may be applied.

Today, many thousands of nylon travelers are in use . . . giving superior performance, saving production time, and cutting costs.

This is but one example of the many textile machinery parts molded of Du Pont nylon now improving performance and saving money for manufacturers. Such nylon parts as bearings, flyer blocks, bolsters, cap bars, and thread guides are becoming standard equipment in more and more mills.

Demand for nylon currently exceeds supply. However, we suggest you investigate its versatile properties for future application. We will gladly discuss the availability of quantities for development work.

For additional information on nylon and other Du Pont plastics, write:

Nylon travelers made by the Clark Thread Co., Inc., Newark, New Jersey

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For more information, write direct or use Reader Service post card.

Shown here: 3-cylinder set, with Peralta Machine. Also available in 2-cylinder and 4-cylinder sets.

Duesberg-Bosson
WOOLEN CARD

Many advantages are being obtained by every woolen mill using this *modern carding machine.*

1. Substantially greater production.
2. Noticeably improved quality.
3. Greater blending of fiber and colors, due to increased doublings.
4. More uniformity of roving.
5. Increased lengths of fiber can be used.
6. Card flyings and waste held to a minimum.
7. Less re-workable waste.
8. Vibration practically eliminated.
9. Less down-time. Fewer repairs.
10. Lower power requirements.
11. More efficient lubrication.
12. Less capital investment.

CATALOGUE AVAILABLE ON REQUEST

Duesberg-Bosson Automatic Card Feeder

SIZE: either 78¾" or 72¾" wide, to match the dimension of the carding machine.

IMPROVED FEEDING MECHANISM: enables weight and settings to be kept within a minimum for prolonged periods.

HOPPER: large. Giant size hoppers can be had if desired.

SPIKE APRON: constructed entirely of metal, with tapered steel pins. Take-up sprockets maintain tautness.

SPIKE APRON STRIPPING COMB: heavy duty type, precision made, accurately balanced; not subject to vibration or backlash at stripping comb speeds.

SCALE PAN: sensitive weighing device automatically prevents overweighing of stock.

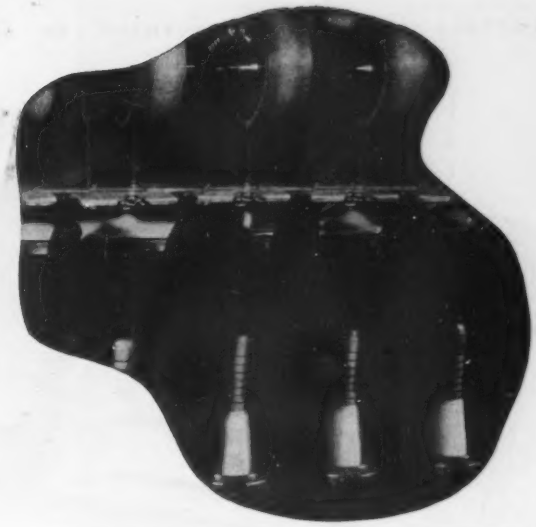
For those who may be interested in seeing tangible evidence *on their own stock* of the superiority of the Duesberg-Bosson Card, we shall be glad to demonstrate the operation of this card. We will process sample lots at our mill, **Duesberg-Bosson Woolen Spinning Company** at Jefferson, Massachusetts (near Worcester). At this mill we are in a position to pick, card, spin, and wind on cones.

Duesberg-Bosson of America, Inc.

Manufacturers of Woolen Machinery, Developed from a Background of Over 115 Years

FITCHBURG ★ MASSACHUSETTS

Now use SYTON with blends



Syton Produces Greater Yarn Strength In Wool Blends

You've already found Syton, Monsanto's silica dispersion, a profit-booster in woolen and worsted spinning...

Now... mill trials prove Syton just as advantageous with blends. Smooth rayon staple behaves more like serrated wool fiber when Syton is applied to control inter-fiber slippage. And the proof is in the spinning. Sytonized wool-rayon yarn is 10%-30% stronger; and ends down are fewer—and with Syton you can spin finer counts on all blends, or use *less* twist and get equal yarn strength.

These, and other real advantages, mean *many* production savings all along the line—more profit despite rising costs. You'll want to put Syton to work for you... in your plant. So send the handy coupon below for full information.

For full information on Syton*, Sterox 6* for wool scouring and other Monsanto textile chemicals such as Stymer*, for rayon slashing; Merlon* resins for durable finishes; Resloom*, for washability and wrinkle resistance; Sted*, for cleansing and scouring action; Catalyst AC for curing melamine and urea resin finishes; Dye fixatives; Rezgard*, fugitive-type flame retardant—check and return the coupon.

*Reg. U.S. Pat. Off.

MILL A—55-45 wool-rayon blend. Applied 1.5% Syton to wool stock; then blended before carding. Front roll speed increased from 105 to 139 r.p.m.—resulting in over 30% increase in production.

MILL B—50-50 wool-rayon blend. Applied 2% Syton, 3% oil emulsion. Stock carded well and was spun to 3⅛ run yarn. Tensile strength increased from 75 to 89 lbs.—a gain of 18%.

MILL C—80-20 wool-nylon blend. Applied 2% Syton, 4% oil to wool stock; then blended with nylon. Overseer attributed improved spinning to uniformity of sliver and yarn.

MILL D—50-50 wool-Dynel blend. Applied 1% Syton, 2½% oil (based on weight of wool) to blended stock. Spun to 6 run. Good control of fibers, smooth, uniform yarn noted.

MILL E—50-50 wool-viscose blend. Applied 1½% Syton, 3% oil to wool; then blended with rayon. Mill had used Syton for 18 months on blends, including virgin and darnetted wool, acetate, viscose, and nylon, with consistently good results.

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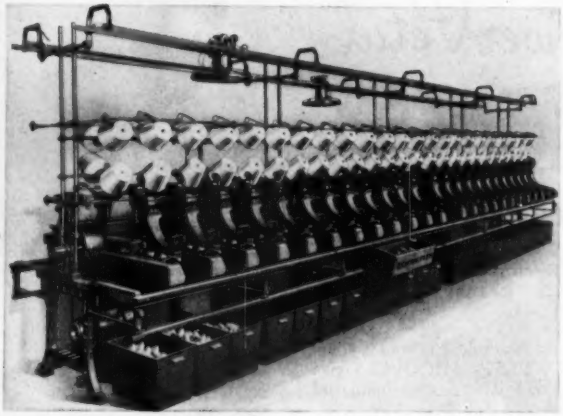

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This machine works continuously at maximum speed, winding cotton, wool, linen, spun rayon, silk, rayon, etc. on to wooden or cardboard bobbins. Each apparatus is driven individually, and has a foolproof safety device which stops the box should a wrong bobbin be inserted into the magazine, or any other obstruction interfere with the smooth running of the spindle.

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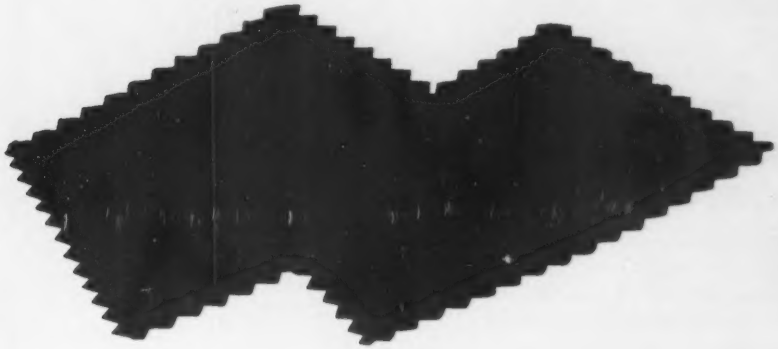

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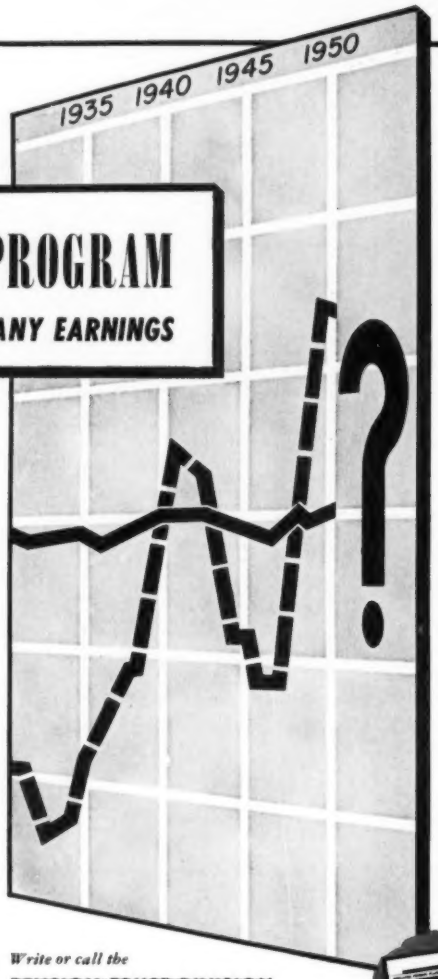
Patterns in Pensions

YOUR RETIREMENT PROGRAM

SHOULD BE GEARED TO YOUR COMPANY EARNINGS



IF your company

EARNINGS ARE STEADY

Your company probably can afford the permanent commitment of an adequate pension system.

IF your company

EARNINGS ARE ERRATIC

Your company probably can best solve the retirement problem through a deferred profit-sharing trust—or a combination of a modest fixed pension commitment plus a profit-sharing retirement plan.

FIND OUT what plan BEST fits your business

Let us help you with complete analyses, including cost estimates. There is no obligation, of course.

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CUSHION ACTION

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AS EFFICIENT — as modern as the automatic transmission in today's automobile. Link-Belt Electrofluid Drive constantly provides a smooth flow of cushioned, shock-free power transmission. Ideal for loads of high inertia, repetitive shock or high starting torque type.

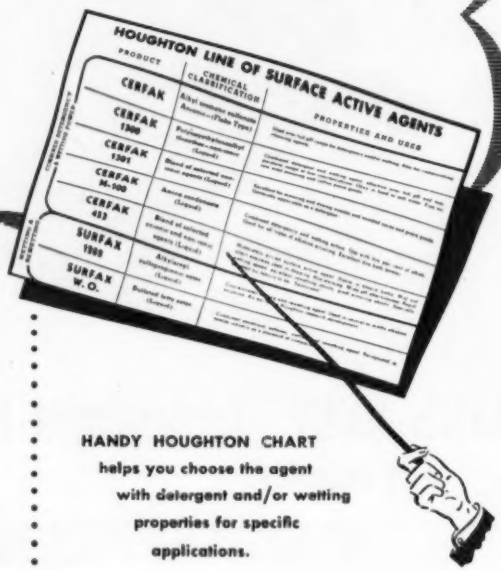
Here's how constant "CUSHION ACTION" reduces wear — cuts maintenance — and often lowers initial investment.

- Both motor and driven machine last longer because constant CUSHION ACTION protects them from overload and shock — torque, even under stall conditions, is limited by fluid drive capacity.
- On high-inertia loads requiring high starting torque, CUSHION ACTION permits motor to attain speed producing maximum torque before fluid drive output shaft revolves — often eliminating need for special or oversize motors.
- Because motor reaches 70% of full-load speed before engaging load, CUSHION ACTION starting current is less than half of normal, and power factor stays high.
- Maintenance of trouble-free Electrofluid Drives is limited to an occasional inspection of oil level.

What's more, you get all the exclusive advantages of constant CUSHION ACTION while maintaining the high efficiency of your existing drive. Book 2385 has complete information on five types of Link-Belt Fluid Drives — Electrofluid Drive, Electrofluid Gearmotor, Fluid Drive, Fluid Gear Drive and Fluid Coupling Drive.

For more information, write direct or use Reader Service post card.

Here's Real Help in Picking the Right Surface Active Agent . . .



HANDY HOUGHTON CHART helps you choose the agent with detergent and/or wetting properties for specific applications.

● Textile mill men who ask us for help with their processing problems often bring up the same question. "You don't have to sell us on *using* good agents," they say, "it's just that there are hundreds of surface active agents, combining detergent, wetting and re-wetting properties to some extent. But—*which one is best* for our specific applications?" We've worked closely with mill owners to find the answer, and will be glad to pass it on to you. Our handy chart at the right will help. So will our descriptive bulletins. And to make another point clearer right at the start, here's how you can differentiate between the two Houghton trade names, too . . .

CHOOSE "CERFAK"

when *detergency* is the chief factor in your processing. Each of these five "Cerfak" products, however, was developed after considerable study for particular processing jobs in the textile industries. This wide range permits you to pick the one that fits the job best and reduces your processing costs.

CHOOSE "SURFAX"

when exceptionally good *wetting and re-wetting agents* are needed. They possess little or no detergent value. In applications where *both* detergent and wetting action are desirable, there's a "Cerfak" available for excellent results. Remember, however, "Surfax" means topnotch *wetting* action.

WRITE FOR INFORMATION and we'll gladly send you the chart above, too.

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A Note About the Supply Situation

A number of our customers have inquired about future deliveries and possible short supply. Like any other manufacturer today, we don't know what tomorrow will bring. However, our present stocks are adequate to meet current demands, and we will make every effort to continue to fill all orders to the best of our ability.

Just Out! New Catalog . . .

A comprehensive new Garland Rawhide Picker catalog has recently been mailed to key men in the textile industry. If you have not received a copy and feel that it would be helpful in your work, write to us stating your name, position, and company. Your request will receive prompt attention.

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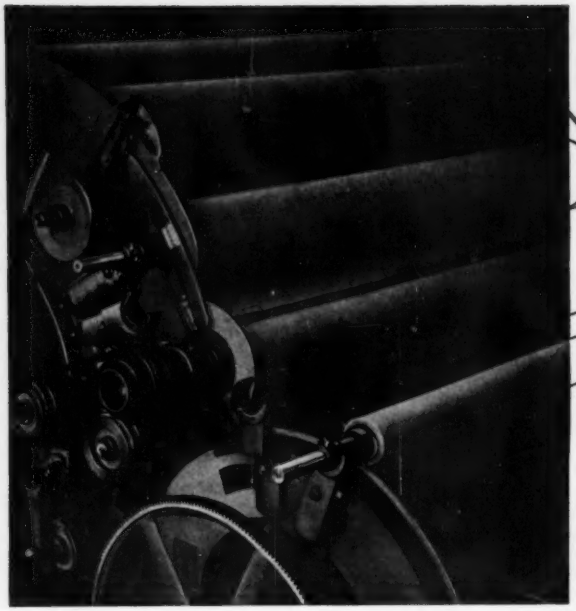

NOW...! An 84-Inch Woolen Card

● Key point in one New England mill's modernization program is this big new 84-inch wide woolen card installed by Davis & Furber early this year. Card room reports from this mill already show 192 ends (8 spools of 24 strands each) rolling up *record poundage figures* hour after hour.

Our many years' experience manufacturing wide cylinder* cards has established D & F machines as efficiency leaders in modern mills throughout the world. But now for the first time, in addition to our new 60 and 72-inch Model 'L' cards, we have made an 84-inch wide cylinder available to the woolen industry. Most important, too... this card has been designed to give *greater poundage at "same-as-present" operating costs* for any stock carded on the woolen principle.

Let our D & F engineers study your operations and show you how this new wide card will fit into your own modernization plans. Write us, north or south.

*up to 138 inches

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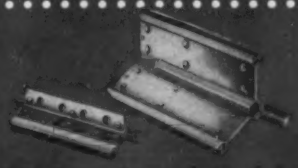

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MIRRO
The Finest Aluminum Cooking Utensils

● Even with present aluminum cut-backs, you are entitled to the parts you need to keep your machines running. The government, recognizing the importance of your industry to the total defense, has authorized us to fill your orders . . . and promptly!

The minute you say the word, our full facilities, guided by 30 years of experience in making custom textile machine parts, will be focused on your needs. We'll follow your blueprints or supply design advice. There are complete Heresite coating facilities right here in Manitowoc.

And when your job is delivered you'll have made-to-order parts that will last longer, reduce wear, cut down machine loads, and present higher resistance to acids. That's four-way economy, plus insurance against interrupted operation.

Wire, phone, or send your blueprints, at once. We're ready to roll . . . on *your* job!

Ask for your copy of the booklet, "Present and Future," describing in detail our facilities, services, plants, and experience. It will show you how we could fit into any D. O. plans or requirements you may have.

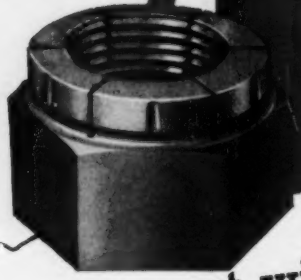
DEFENSE DIVISION

ALUMINUM GOODS Manufacturing Company

MANITOWOC WISCONSIN

FIFTH AVENUE BLDG., NEW YORK 10 MERCHANDISE MART, CHICAGO 54

Why FLEXLOC SELF-LOCKING NUTS



"This nut will take the place of the two regular nuts and the washer that is now on this piece."

(Part of a letter from a Connecticut distributor.)

...simplify assembly

You can readily see why FLEXLOCs simplify assembly when you read the above excerpt from our distributor's letter. From comments like this we feel sure there must be hundreds of similar cases where FLEXLOC Self-Locking Nuts can be used to advantage.

FLEXLOCs offer these features: *one-piece, all-metal construction* — nothing to work loose or forget, no serious temperature problems; *resilient, automatic locking sections,* processed by our patented method to make possible FLEXLOCs' closely controlled torques; PLUS the fact that the most chattering vibration won't loosen FLEXLOCs, even after many applications.

Why not convince yourself with actual samples? Tell us what size you want and you'll receive them promptly, together with our latest literature.

FLEXLOC Self-Locking Nut, "regular" type.

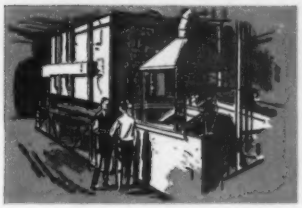
FLEXLOC Self-Locking Nut, "thin" type.

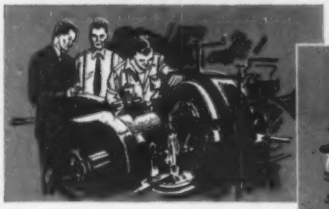
FLEXLOC Self-Locking Nut, external wrenching type.

SPS

Now! one-source help on every application of petroleum products:

GULF PERIODIC CONSULTATION SERVICE





Now you can get practical help on any problem that involves a petroleum product—any type of petroleum product—from this single source: GULF PERIODIC CONSULTATION SERVICE.

Through this advanced cooperative plan, Gulf makes available to you the regular counsel of one or more trained engineers, men who are skilled in every phase of petroleum science —men who have years of experience with practically every type of process and equipment employed by industry.

This knowledge and experience can be applied profitably to your operating and maintenance problems. Send the coupon below for your copy of the booklet "Gulf Periodic Consultation Service," which describes this cost-saving service. Or contact your nearest Gulf office.

GULF

Send for your copy today!

Gulf Oil Corporation • Gulf Refining Company TW
Room 3-SZ, Gulf Building, Pittsburgh, Pa.

Please send me, without obligation, a copy of the booklet "Gulf Periodic Consultation Service."

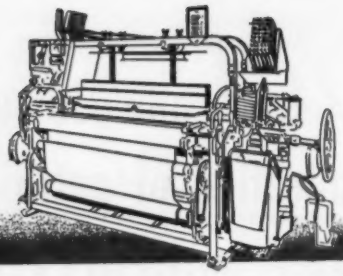
Name.....

Company.....

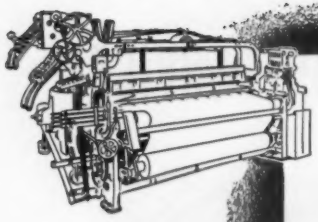
Title.....

Address.....

 For more information, write direct or use Reader Service post card.



S LOOMS



W LOOMS

World's Longest Line of Looms

...built by

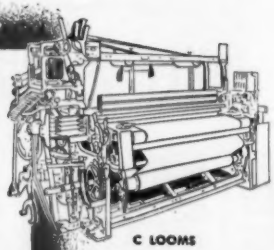
This "Invisible Trademark" Stands Back of the Trademarks of the World's Finest Woven Fabrics

CROMPTON & KNOWLES LOOM WORKS

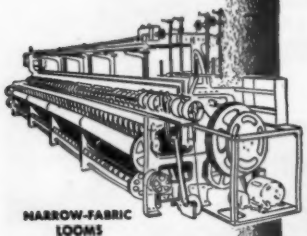
WORCESTER 1, MASSACHUSETTS, U. S. A.

PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.

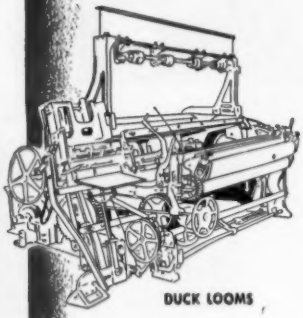
CROMPTON & KNOWLES JACQUARD & SUPPLY CO., PAWTUCKET, R. I.



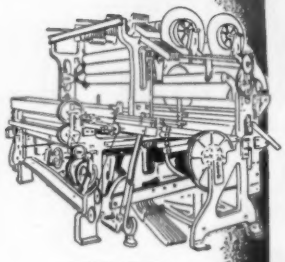
C LOOMS



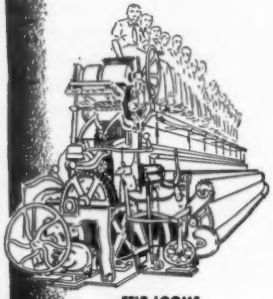
NARROW-FABRIC LOOMS



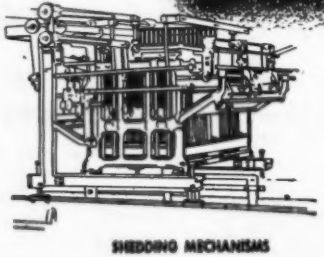
DUCK LOOMS



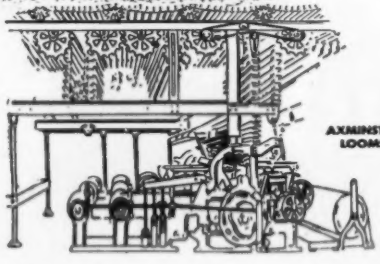
PLUSH LOOMS



FELT LOOMS



SHEDDING MECHANISMS



AXMINSTER LOOMS

It's easy to get the right pump!

Gardner-Denver Side-Suction Centrifugal Pump

Call your Gardner-Denver field engineer. He'll gladly work with you in planning the most economical and efficient pumping layout. And he's an expert at specifying the *correct* pump for every installation.

He may recommend the compact Gardner-Denver Close-Coupled Centrifugal, which may be installed in many positions—or the easy-to-hook-up Gardner-Denver Side-Suction Centrifugal—or the heavy-duty Gardner-Denver Double-Suction Centrifugal. All Gardner-Denver pumps are built in a wide range of capacities—can be furnished in corrosion or abrasion resisting materials when required.

Write us today for complete information. Ask for the name and address of the Gardner-Denver pumping engineer nearest your plant.

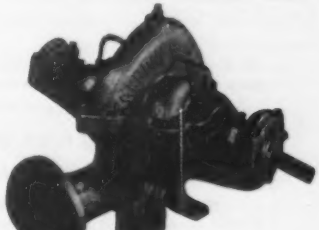
Gardner-Denver Close-Coupled Centrifugal Pump

SINCE 1859

GARDNER-DENVER

THE QUALITY LEADER IN PUMPS, COMPRESSORS AND ROCK DRILLS

Gardner-Denver Company, Quincy, Illinois



Gardner-Denver Double-Suction Centrifugal Pump

In Canada: Gardner-Denver Company (Canada) Ltd., Toronto, Ontario

Atlanta, Ga.; Birmingham, Ala.; Knoxville, Tenn.; Washington, D. C.
New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; New Orleans, La.

HOW TO IMPROVE YOUR FLOORS WITH KWYKWAX

GLOSS — a high, hard luster — breathes life into even the oldest flooring. Kwykwax produced a rich-looking sheen on this well battered linoleum *without* buffing or polishing . . . and new floors respond like magic! A deep, long-lasting gloss that will not darken wood or other surfaces. After heavy traffic wear, a light buffing brings back new, brighter sparkle.

APPEARANCE and application go hand in hand. Kwykwax spreads on smoothly and easily. Without lapping or streaking. A non-tacky finish means floors *stay* cleaner.

HARDNESS can be easily tested. Ask a West representative to coat a standard test sheet with your present wax—and Kwykwax. Scratch both with the edge of a coin. You judge!

PROTECTION saves floor repair. Kwykwax resists hot and cold water. Won't spot or peel . . . even after long, "rainy day" exposure. Repeated application restores worn floors.

SAFETY is only good business sense. So too is Kwykwax, listed by the Underwriters' Laboratories as an anti-slip floor treatment. Ask the ladies — soon as your floors are Kwykwaxed!

ECONOMY here can mean extra profits. There's 1500 to 2000 sq. ft. of coverage in every gallon of Kwykwax! Squeeze it out . . . the thinner the coating the better.

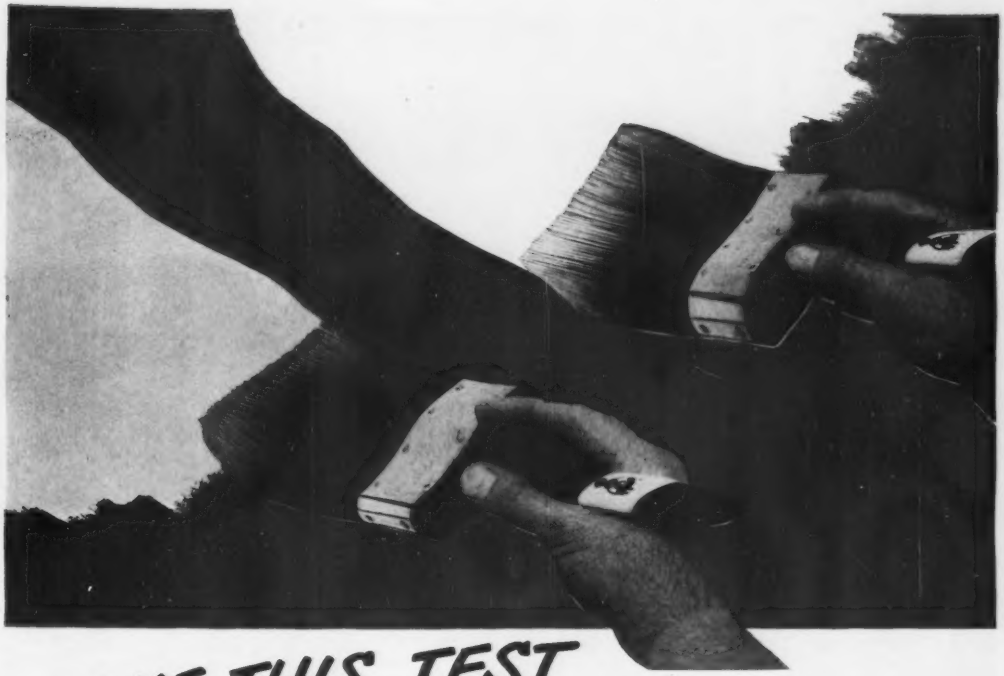
An independent survey* proves it! Recently, field and laboratory tests were conducted without favoritism on a wide range of flooring materials. At the request of a well-known association. Of 26 water-emulsion waxes tested, only Kwykwax earned a triple top rating in the three main classifications: Gloss . . . mar-resistance . . . water-resistance. Kwykwax surpassed a number of higher-priced competitors! Prove it to your own satisfaction. Compare your present wax with a test sample of Kwykwax. For a free sample write Dept. 13.

Ask your West representative for a copy of this wax evaluation report.

WEST DISINFECTING Company

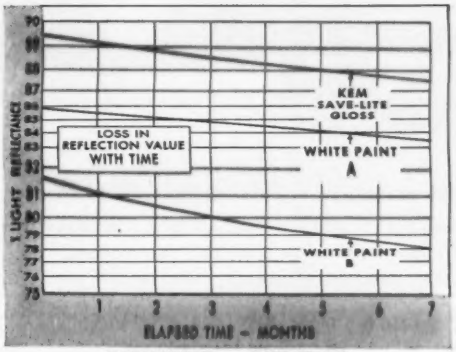
42-16 West Street, Long Island City 1, N. Y.

(64 Branches in the U. S. and Canada)



MAKE THIS TEST

before you paint your plant!



STARTS WHITER . . . STAYS WHITER!

Note how the whiteness, or reflective value, of Save-Lite *starts* higher than conventional finishes when first applied, and *continues* higher, as time goes on. This means *longer* intervals before repainting is required.

Compare KEM SAVE-LITE with ordinary whites

SEE why it stays cleaner—longer!

See for yourself the difference there can be in the whiteness of "white" finishes . . . even when they are first applied! Make a side-by-side comparison of KEM SAVE-LITE Mill White against conventional white finishes on any wall surface in your plant.

You can see the difference, from the start, in gleaming, brilliant whiteness... a difference because of the *controlled,* light-reflective properties that are designed into SAVE-LITE Mill White Finishes.

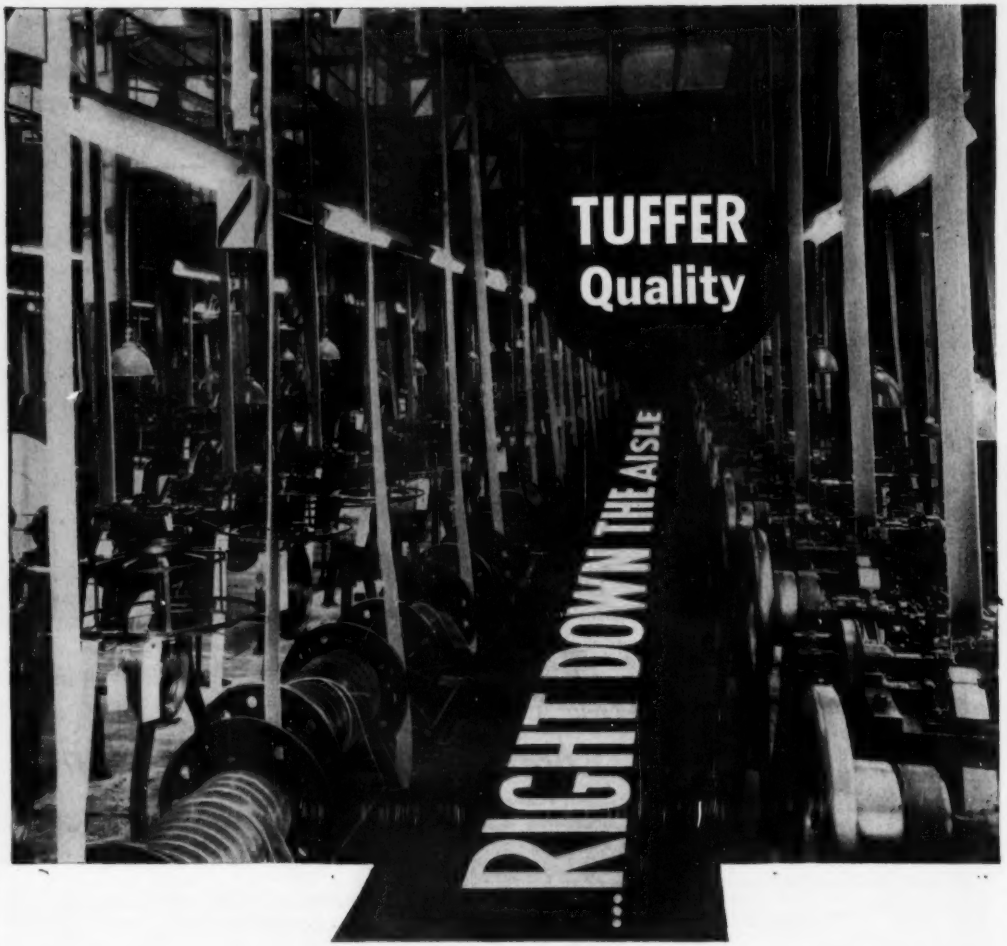
KEM SAVE-LITE *starts* whiter . . . KEM SAVE-LITE *stays* whiter, as the actual light reflectometer measurements in the comparative chart show. You'll find these same properties, too, enable it to hide better and cover farther! Call your Sherwin-Williams representative today for a demonstration, or write The Sherwin-Williams Co., Cleveland 1, O. (Division Offices, Charlotte, N. C. and Boston, Mass.)

SHERWIN-WILLIAMS

INDUSTRIAL MAINTENANCE FINISHES

SAVE-LITE MILL WHITE • COLOR HARMONY FINISHES

MILL VILLAGE PAINTS



Here you see our exclusive Tufferizing Process at work . . . turning out Tuffer Card Clothing with a degree of precision and uniformity heretofore unknown in the manufacture of card clothing.

These machines and the Tufferizing Process were developed in our own engineering department . . . where the search for better ways to make better card clothing is continuous.

Our hundreds of customers who reorder time after time are proof that Tuffer Card Clothing is a superior product. Try it next time.

HOWARD BROS. MFG. CO. WORCESTER 8, MASSACHUSETTS

Southern Plants: Atlanta, Ga. and Gastonia, N. C.

Branches: Philadelphia, Pa. and Blanco, Texas *Direct Representation in Canada* A-8

TUFFER CARD CLOTHING

IMPROVES PRODUCTION ALL ALONG THE LINE

COLOR
Sells Textiles
QUALITY
Keeps Them Sold
ANY well chosen colors, properly combined, give "buy" appeal to yarn-dyed fabrics. However only quality colors give the lasting satisfaction which builds repeat business.
Franklin Process
LARGEST PACKAGE DYERS IN THE WORLD
PROVIDENCE • PHILADELPHIA
GREENVILLE • CHATTANOOGA
NEW YORK REPRESENTATIVE 40 WORTH STREET

And in my size too!

BOTH HDR-300'S EARN MORE — PRODUCE MORE. HERE'S WHY:

- ★ HAND TRANSFERS ELIMINATED
- ★ FEWER REJECTS
- WIDER RANGE OF SIZES
- HIGH PRODUCTION
- ★ SMALL FLOOR SPACE
- ★ NO INVOLVED TRAINING FOR OPERATORS
- ★ LARGE BATTERY PER OPERATOR
- ★ LOW MAINTENANCE COST
- ★ LOW NEEDLE BREAKAGE
- ★ ALL PARTS EASILY ACCESSIBLE TO FIXERS

New BANNER HDR-300 MODEL KNITS TRUE RIB TOP ANKLETS IN SIZES 5 TO 7

Another outstanding Hemphill engineering development! The 2½" cylinder, 48 and 54 gauge, model HDR-300, joins the original 3" cylinder anklet machine to give you an anklet size range from 5 to 10.

These Banner "All-In-One" machines represent a new and better way to knit true rib top anklets — non-stop and automatically. Their high production (up to 5½ dozen pair in an 8-hour shift) plus their ability to reduce costs by getting the maximum output from each operator, means high profits — and a comfortable cost cushion to meet competition.

Phone or write the Hemphill Company or any of its sales offices today. A Hemphill sales engineer will help you explore your full profit possibilities with these two Banner "All-In-One" machines. They're the automatic answer to your hand-transfer problems.

★ *SAVINGS PAY FOR HDR-300 FAST!*

These and other Banner machines were shown at the Knitting Arts Exhibition in Atlantic City.

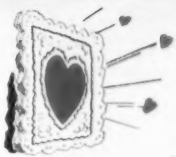
HEMPHILL BANNER MACHINES — Shaping Hosiery's Footprints All Over The World!

HEMPHILL COMPANY PAWTUCKET, RHODE ISLAND, U.S.A.

Makers of Banner ® Automatic Hosiery Machines

OFFICES: Empire State Bldg., New York 1, N. Y. Security Bank Bldg., High Point, N. C.
Latin American Export Office, 25 Beaver St., New York 4, N. Y.

PATENTED



Roses are red
Violets are blue
Displays like this
Make sales for you!

Here's a "Valentine" that *dealers* love—a clever display packed with tempting Valentine candies. It's a combination sure to brighten any youngster's eye. And *that's* sure to brighten the day's cash register figures! This H & D display is a favorite of manufacturers, too, because it combines a shipping box with an effective point-of-sale display at an over-all saving.

H & D's book, "Pack to Attract" shows dozens of ways better packaging can help you, through better display . . . lower packaging costs . . . increased sales . . . better product protection. For a copy, write Hinde & Dauch, 5103 Decatur St., Sandusky, Ohio.

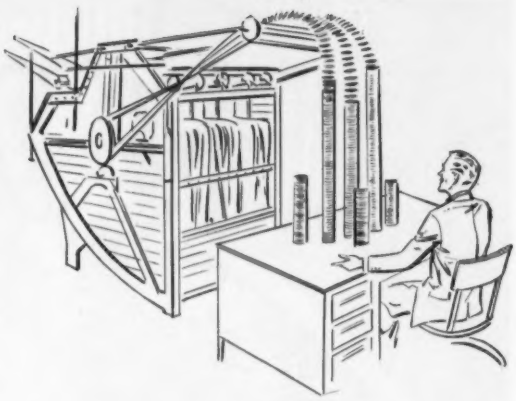
H&D®

HINDE & DAUCH
Authority on Packaging

FACTORIES IN: Baltimore • Buffalo • Chicago • Cleveland Detroit • Gloucester, N. J. • Hoboken, N. J. • Kansas City, Kan. Lenoir, N. C. • Richmond, Va. • Sandusky, Ohio St. Louis • Watertown, Mass. *Offices in principal cities.*

The Fleet Line

STAINLESS FULLING MILL



The FIRST stainless fulling mill on the market, there are now several hundred of these machines in use. Time after time, when replacing obsolete fulling mills, it has paid for itself in 3 years or less, through savings effected. Here are some of the reasons why.

INCREASED PRODUCTION — Big capacity mill can handle 12 pieces of men's wear or 16 pieces of dress goods in one load.

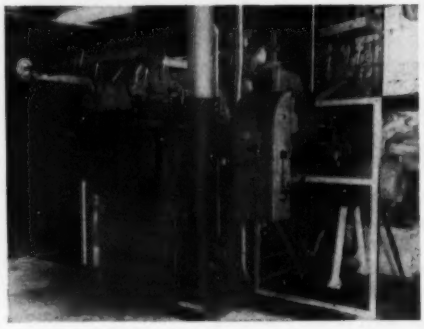
LOAD FLEXIBILITY — Even 12 piece (800 lbs.) mill can handle as few as 2 pieces.

IMPORTANT SAVINGS — Soap — 20%; dead loss — 1/10 to 1/4; fulling time — 10 to 33%.

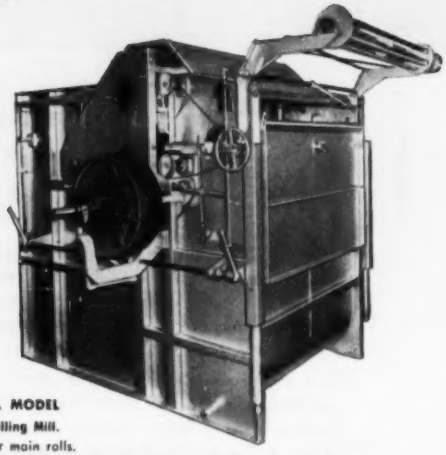
RUGGED CONSTRUCTION — Making for long life and minimum maintenance.

Features which contribute to better quality of product will be explained on request.

In 3 years or less
YOU GET YOUR INVESTMENT BACK



STANDARD MODEL
With stainless steel parts contacting cloth.



NEW ALL STAINLESS STEEL MODEL
Air-Fleet Line Stainless Steel Fulling Mill.
Finger Tip Pneumatic controls for main rolls.

RIGGS AND LOMBARD, INC.

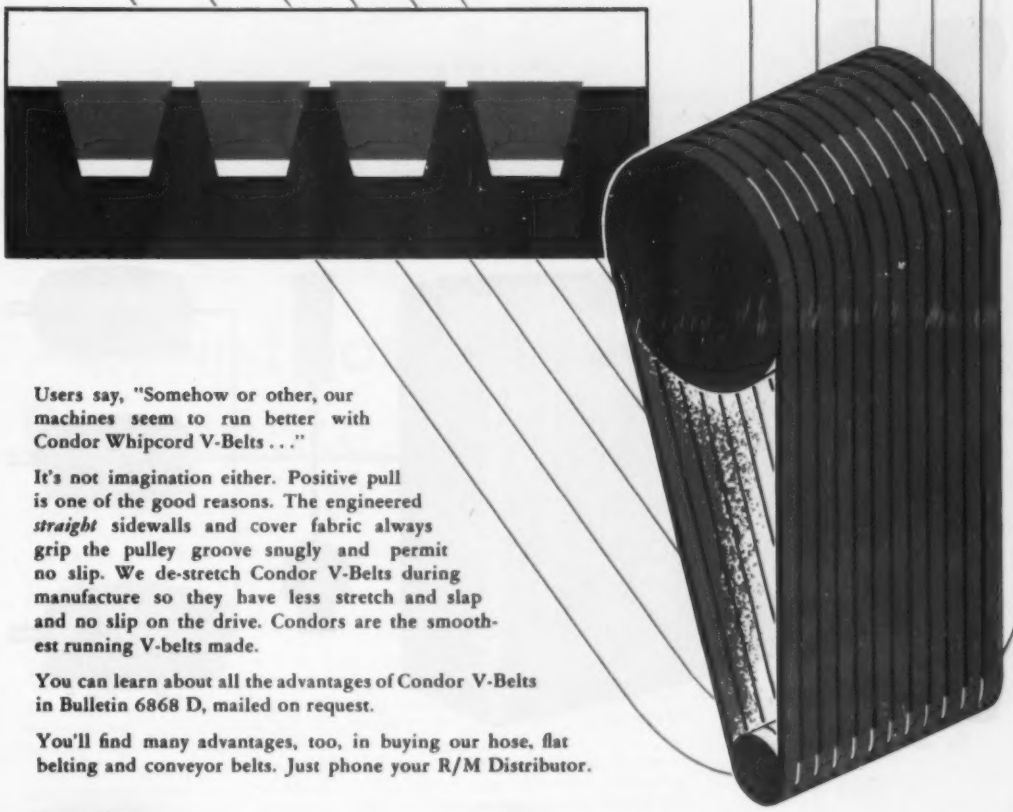
FOOT OF SUFFOLK STREET, LOWELL, MASS.

The Fleet Line — A complete line of modern equipment to successfully handle present day wet-finishing, carbonizing and dyeing requirements.

DOMESTIC AGENTS: — Paul A. Morrison, 1491 Broad St., Providence, R. I. • Charles H. Dunker, 1236 South Maple Ave., Los Angeles 15, Calif. • Albert R. Breen, 80 E. Jackson Blvd., Chicago 4, Ill.

EXPORT AGENTS: — Latin America — Balkan States, Egypt, Palestine, India — Meyer, Lyra & Co., 228-299 Fulton St., N. Y., N. Y. • South Africa — Noel P. Hunt, Pty., Ltd., Embassy House, 326 West St., Durban, South Africa • China — G. R. Coleman & Co., Inc., 50 Church St., N. Y., N. Y. • H. E. Mott Co., Ltd., Brantford, Ontario, Canada

Condor V-BELTS GRIP THE GROOVES



Users say, "Somehow or other, our machines seem to run better with Condor Whipcord V-Belts . . ."

It's not imagination either. Positive pull is one of the good reasons. The engineered *straight* sidewalls and cover fabric always grip the pulley groove snugly and permit no slip. We de-stretch Condor V-Belts during manufacture so they have less stretch and slap and no slip on the drive. Condors are the smoothest running V-belts made.

You can learn about all the advantages of Condor V-Belts in Bulletin 6868 D, mailed on request.

You'll find many advantages, too, in buying our hose, flat belting and conveyor belts. Just phone your R/M Distributor.

MANHATTAN RUBBER DIVISION — PASSAIC, NEW JERSEY

RAYBESTOS-MANHATTAN, INC.

Manufacturers of Mechanical Rubber Products • Rubber Covered Equipment • Radiator Hose • Fan Belts • Brake Linings • Brake Blocks • Clutch Facings • Packings • Asbestos Textiles • Powdered Metal Products • Abrasive & Diamond Wheels • Bowling Balls

Now—save with a **PACKAGED** G-E Slasher Drive

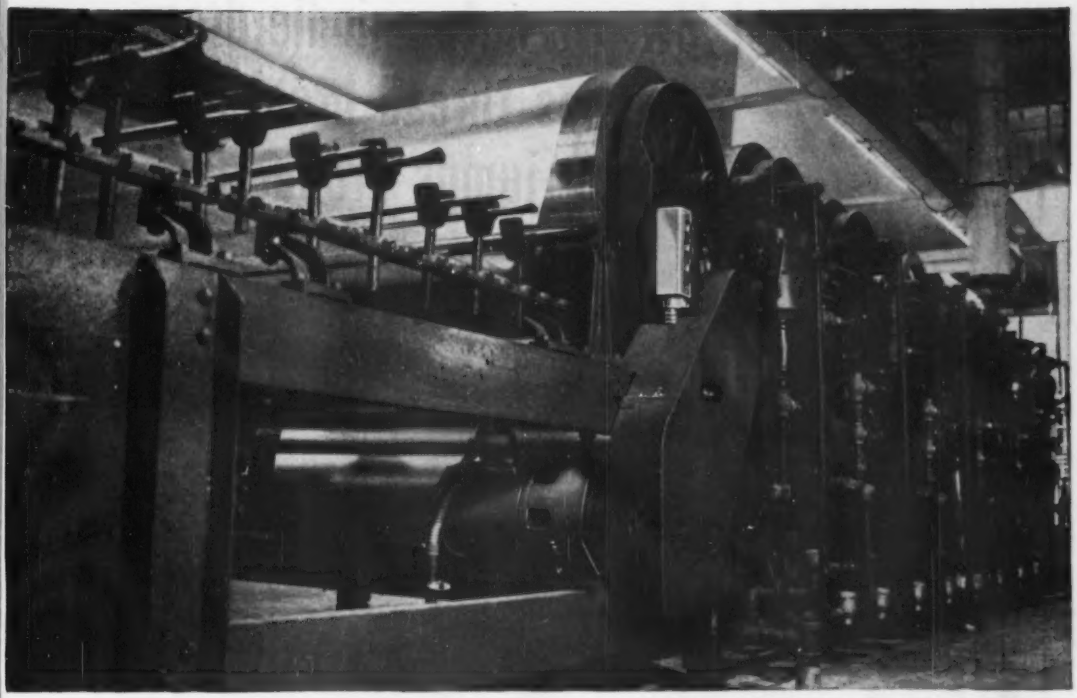
Here's all you need!

A packaged G-E slasher drive consists of only (1) any required number of d-c driving motors with their associated rheostats, (2) operator's control stations which can be put wherever is most convenient, and (3) a "package" containing everything else—motor-generator set, exciter, and all control—which can be remotely located to save space around the slasher.

GENERAL ELECTRIC

654-17

For more information, write direct or use Reader Service post card.



G-E amplidyne-controlled 4-motor drive provides operating speed of 12 to 60 yards per minute for this synthetic yarn slasher in the William Skinner and Sons Co. mill in Holyoke, Mass. View from windup end shows one of four G-E 1½-hp gear-motors driving the drying cylinders. Operator can start and stop the drive from the drying section, if necessary, by means of the push-button station shown above motor.

—in first cost, installation, floor space, and maintenance!

All the advantages you've liked in the General Electric multi-motor slasher drive are now also available to you in this new packaged G-E drive that cuts your costs four big ways:

You save on first cost substantially—because mass production of standardized parts reduces unit costs.

You save on installation because the factory-assembled power "package" needs no special foundation, contains all wiring between components except to the remotely-mounted motors and operator's controls.

You save on floor space because motor-generator set, exciter, and all control are housed in one compact unit.

You save on maintenance because all components in the power unit are easily accessible; dust, dirt, and lint are prevented from entering the power unit by large ventilating-air filters.

Both G-E slasher drives—packaged and separate-unit type—use the same performance-tested adjustable-voltage d-c speed control teamed up with amplidyne tension control. Both give you the same **automatically controlled** warp tension for most efficient slasher operation. **The payoff? Uniform high-yardage warps, fewer ends down at the loom, higher weave-room efficiency!**

Ask your machinery manufacturer or your G-E textile-mill specialist about all the operating and cost-saving features of packaged G-E slasher drives. Meanwhile, send for Bulletin GEA-5259 on standard G-E slasher drives. **General Electric Company, Schenectady 5, N. Y.**

SLASHER DRIVES

FOR TEXTILE MILLS

Ask your G-E representative to arrange a showing of "Textiles Unlimited." It's G-E's full-color sound movie on how textile mills are modernizing—a More Power to America presentation.

"Tycol Alweave cuts spindle drag... reduces thread breakage... jumps production"

Right! The stability and lubricating value of Tycol Alweave Spindle Oils assure minimum wear and low power consumption, all helping to step up production by reducing drag and thread breakage.

A wide range of Tycol Alweave Textile Oils is specially designed in both mineral and compounded grades to cut costs in other processes in your mill.

For further information about Tycol Alweave Textile Oils, write, wire or phone your nearest Tide Water Associated office today.

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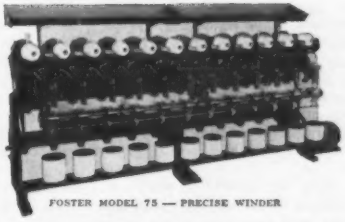
Usually the purchase price of a machine is only the first cost. After that come additional costs for setting up and starting up. Although they may often be overlooked, they're all a part of the investment.

But Foster keeps setting up and starting up costs to a minimum by:

1. Carefully inspecting all parts before assembling. (Certain parts, such as cams, are also individually tested on dynamic balancing machines).
2. Completely assembling every machine and testing it in operation.
3. Shipping assembled machines for domestic use so that mill installation time is reduced to a minimum.

Modern machine tools . . . scientific production and testing methods . . . expert craftsmen . . . all of these are combined at Foster to produce winders that give you the maximum in production at a low operating cost — plus a minimum outlay for repairs and maintenance.



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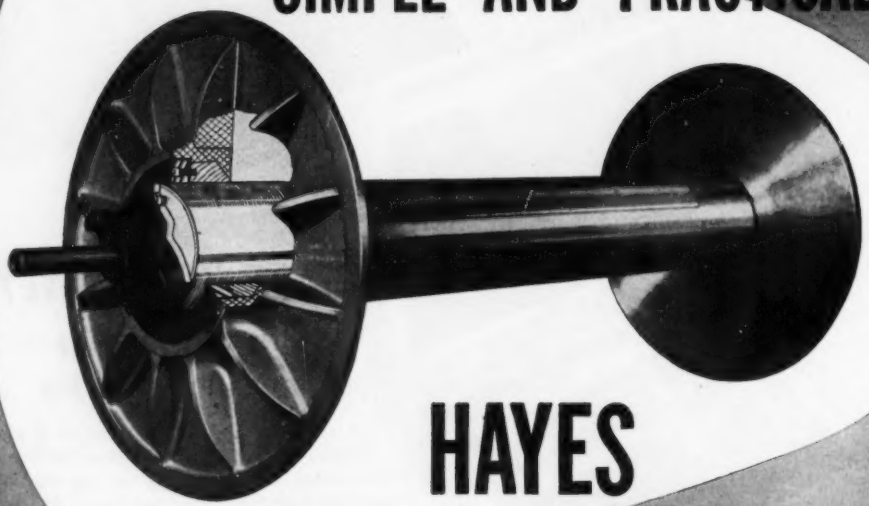
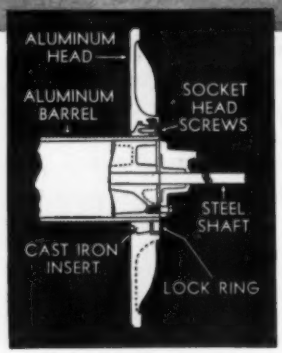


HAYES

ADJUSTABLE LOOM BEAMS



Sectional drawing of New Locking Device — simple — strong — stays put.

NOW, for the first time you can have the most practical, Adjustable Loom Beam yet devised. It is simple, easy to adjust and locks in any position. To secure the head in place, you simply tighten the socket head screws evenly on the locking mechanism. No special tools are required. The new and very simple built-in locking device shown at the left gives you greater head strength, *with no reduction in yarn space.* Here is a New, Adjustable Loom Beam that is strong and sturdy in construction, is accurately made and stays true indefinitely, and of course does not rust. *Yet it is so light in weight that two men can lift it into the slasher with ease!*

NOW, you can have the benefit of years of research, now you can have all the advantages of the conventional adjustable loom beam plus light weight, strength and accuracy never before achieved. Hayes produces Adjustable Loom Beams for all standard looms. Write for Catalog 100, on Hayes Beams. Due to present material curtailments, we may not be able to ship your Beams as quickly as you or we would like. We will however, do our best to fulfill your requirements.

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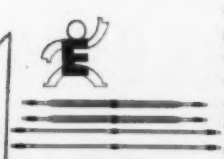
SPOTLIGHTS ON LOOM HARNESS PROGRESS!



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(Slotted and Cut-Out.)

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Pitchband, All-Metal,
Carbon or Stainless Steel

WOODEN HEDDLE FRAMES

ALUMINUM — MAGNESIUM HEDDLE FRAMES

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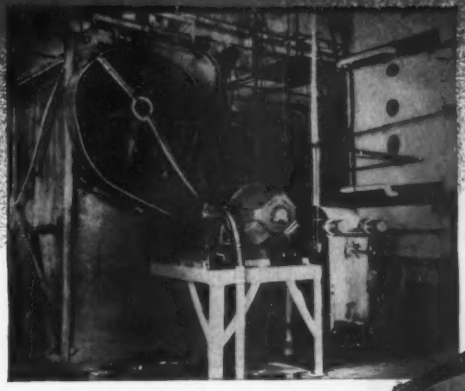
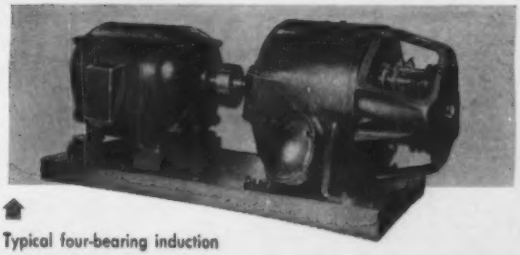


An Elliott Crocker-Wheeler BH type motor drives this tight strand washer at a prominent New England mill.

The Elliott Crocker-Wheeler D C motor, type BH, drip-proof.

Delivery end of a 7-motor continuous pad driving range, powered by Elliott Crocker-Wheeler motors.



Typical four-bearing induction motor-generator set.

CW-32

ELLIOTT COMPANY

CROCKER-WHEELER DIVISION

Ampere, N. J.

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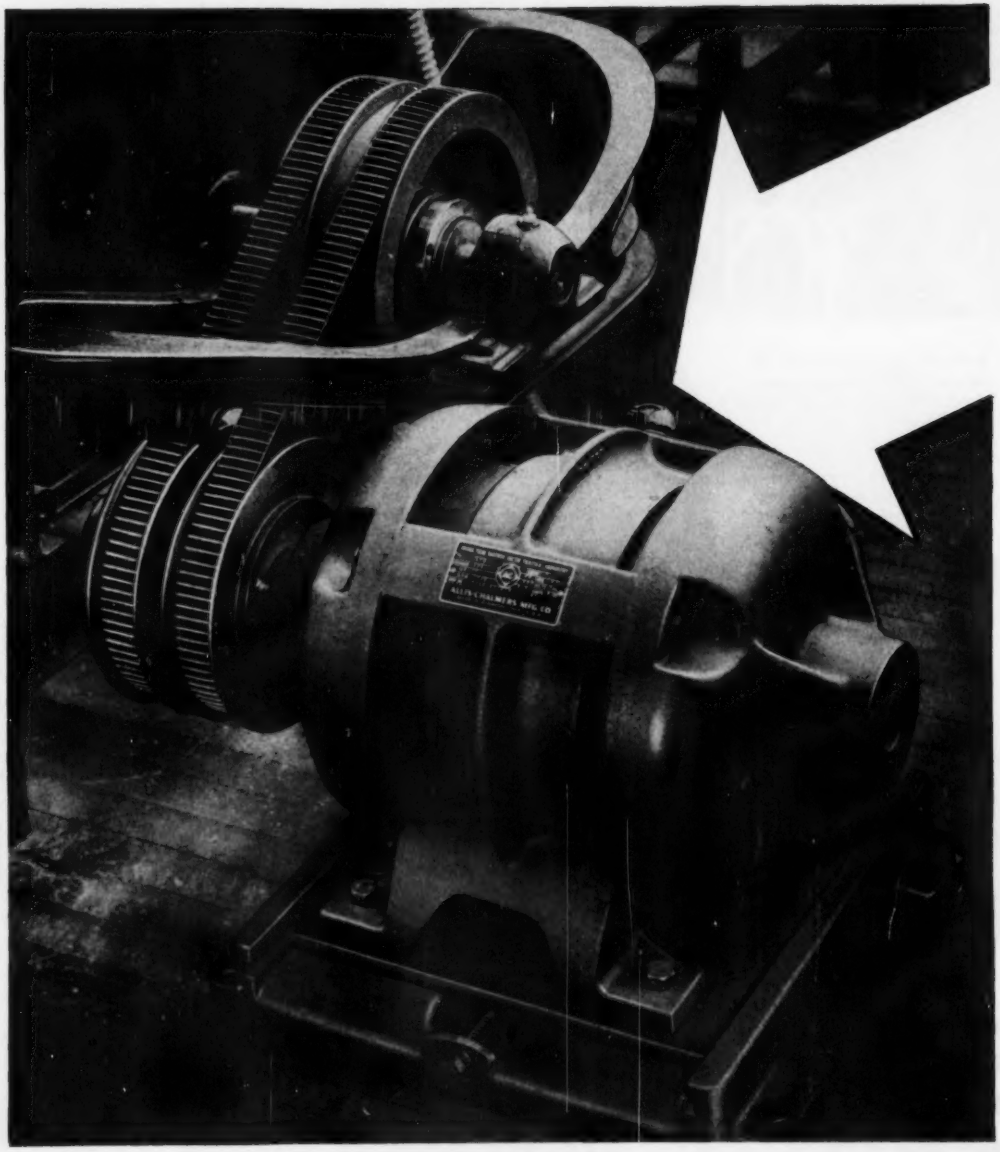

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for This Motor

Quick-Clean TEXTILE MOTOR

Ordinary motors in lint-laden atmospheres have trouble . . . overheating — high maintenance costs — burnouts. *Quick-Clean* motors avoid these expensive troubles because lint and dirt cannot accumulate on or inside the motor.

MATCH *QUICK-CLEAN* MOTORS WITH ALLIS-CHALMERS STARTERS

Developed for dependable, safe starting of *Quick-Clean* motors. Other controls for all electrical equipment in your plant. For competent applications engineering, see your Allis-Chalmers Authorized Dealer or write District Office.

QUICK-CLEAN WIDE OPEN DESIGN allows powerful fans to sweep lint and dirt in, out and away with the cooling air. Interior surfaces are smooth and hard. Large air passages are contoured to aid air flow. There is no place where lint and dirt can collect.

Cast Iron Frame

The frame of the *Quick-Clean* motor is rigid cast iron which resists the corrosive action of moist mill atmospheres. Cast iron maintains perfect alignment under all normal operating conditions assuring maximum bearing life and trouble-free operation.

Factory Lubricated Bearings

Bearings are lubricated and sealed at the factory and should need no attention for years. Grease or oil cannot leak from the bearings to soil materials or collect dirt. Lint and dirt cannot enter the bearings.

Get The Facts

Your nearest Allis-Chalmers Authorized Dealer or District Office has complete information on the *Quick-Clean* motor. Or write Allis-Chalmers, Milwaukee 1, Wisconsin for the bulletins shown below. A-3396

Quick-Clean, Texrope and Vari-Pitch are Allis-Chalmers trademarks.

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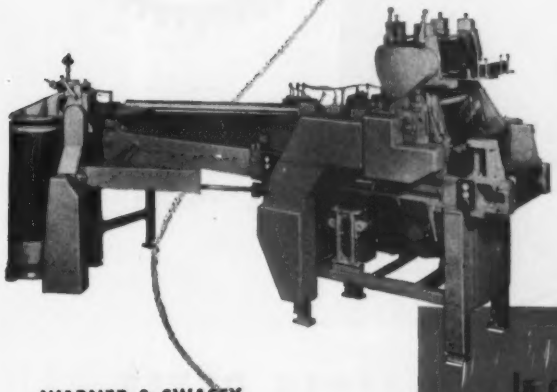

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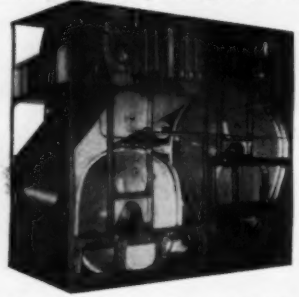
The CYL-AIR Slasher Dryer is designed for smooth operation and low maintenance cost. We will be glad to show you how the CYL-AIR can be easily adapted to your present slasher equipment.

The WPF&M CYL-AIR Slasher is one of the complete line of modern Slashers manufactured by the WEST POINT FOUNDRY & MACHINE COMPANY—specialist in Slasher Room machinery and equipment.



INTERIOR OF THE CYL-AIR SLASHER DRYER

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Standard 2 and 3 Cylinder Slashers
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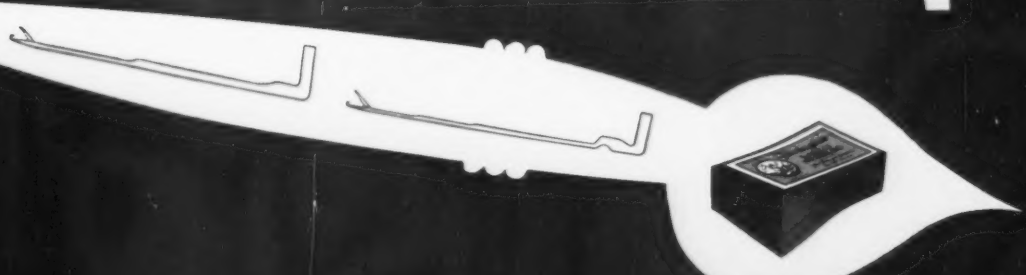

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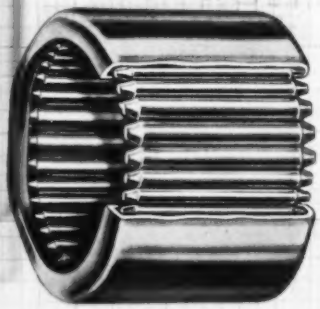

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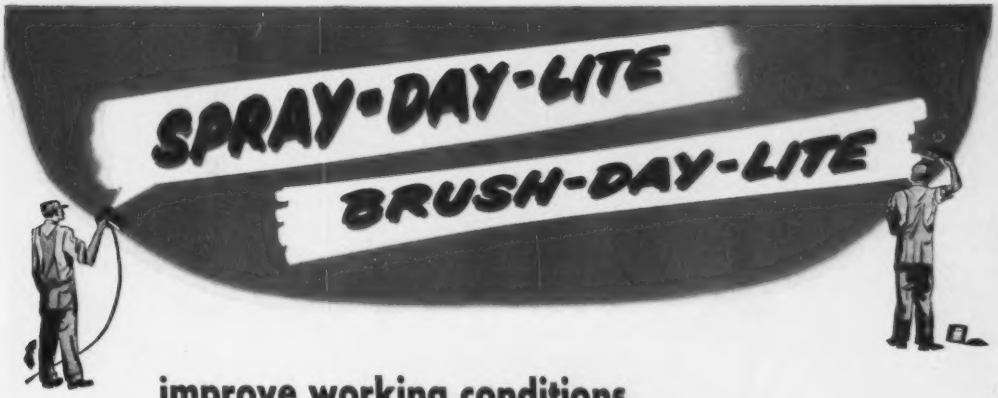

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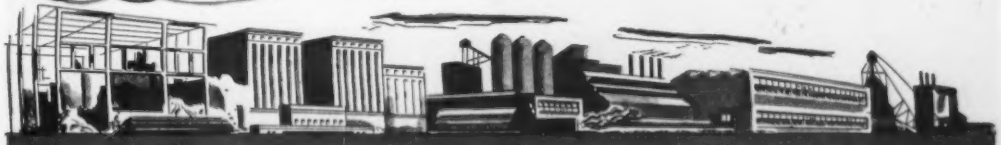

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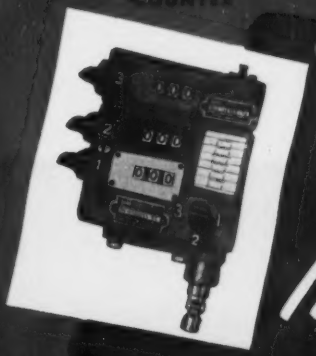
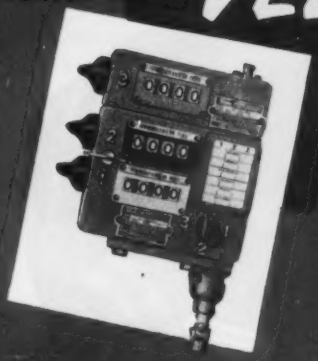


2-3 CONVERTIBLE HANK COUNTER

It's Always First Things First at VEEDER-ROOT

REVOLUTION COUNTER



LOOM CUE METER

VEEDER-ROOT will keep them coming, just as many and as fast as possible . . . but remember that "first things first." And Veeder-Root is called upon to do the most it can for Military Musts.

Meantime, of course, we will do all we can for those who need Veeder-Root *Count*rol in their mills. If you need 2-3 Pick, Hank, Yardage or Revolution Counters . . . make your needs known *now* to your Veeder-Root Field Engineer. Get in touch with the nearest Veeder-Root office *today*.

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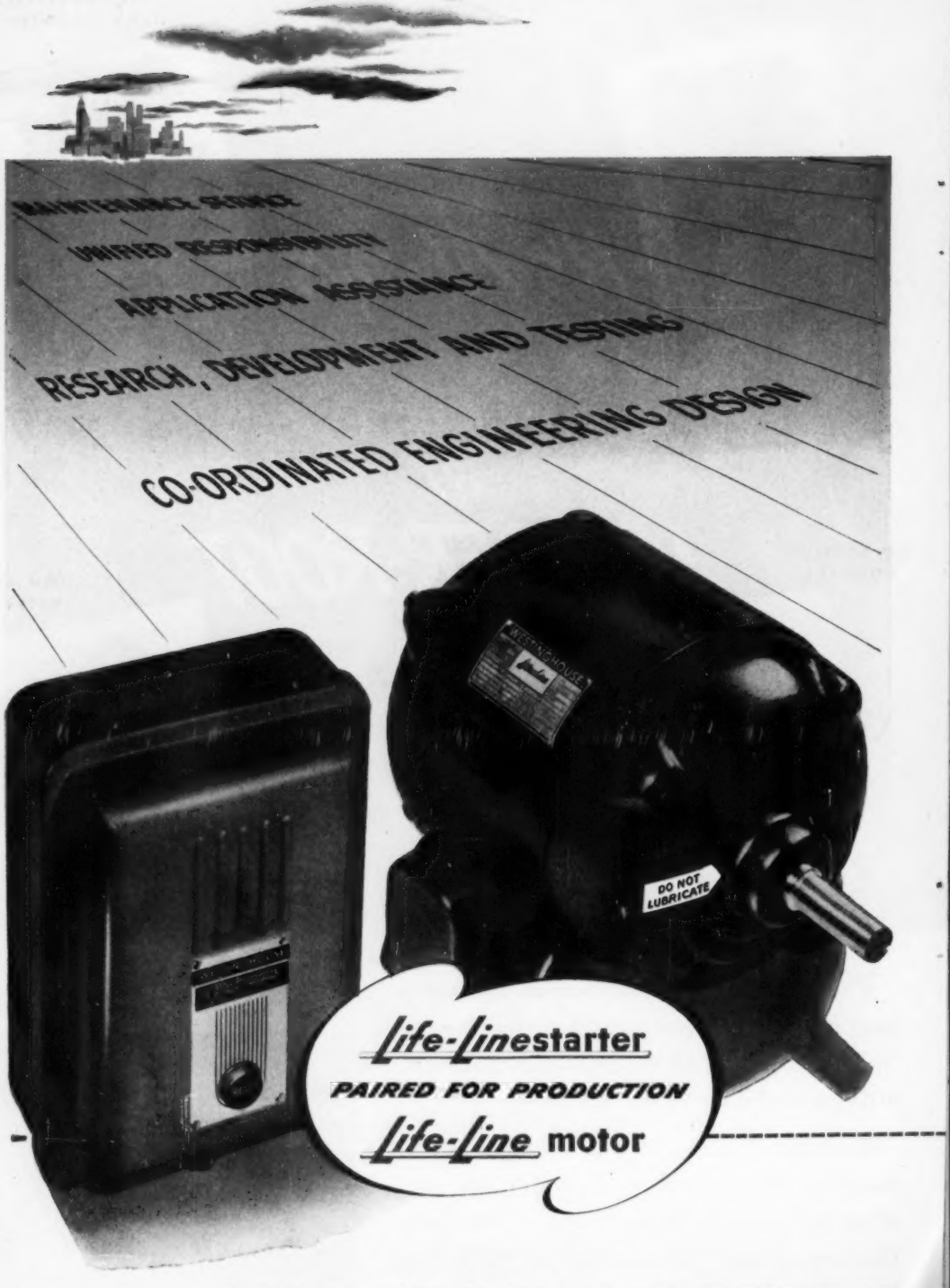
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PAIRED FOR PRODUCTION
Life-Line motor

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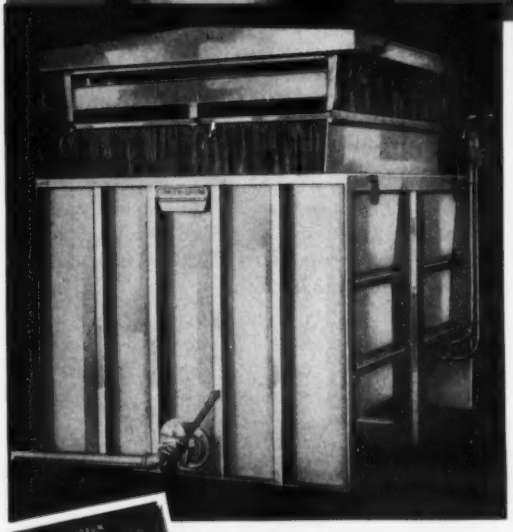
ONLY *Relaxed* YARN

RETAINS ITS FULL RESILIENCE AND FLUFFY APPEARANCE!

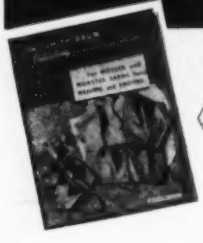
That's the *BIG IDEA* of this

SMITH-DRUM

Pulsating Skein Dyeing Machine



This machine introduces the "pulsating flow" principle of dyeing woolen and worsted yarn in skeins. The flow is in the "downward" direction only and the yarn is permitted to ***relax*** at regular intervals during the dyeing process. As a result, the yarn is not subject to continuous tension or stretch. The strands of the skein remain completely free and the fibers of each individual strand retain their full life and resilience. Yarn dyed in The SMITH-DRUM Pulsating Machine is actually ***improved*** in both appearance and feel. Better winding qualities of the dyed yarn and uniform dyeing with level shades . . . combined with economy and versatility . . . are among other important advantages you cannot afford to ignore.



Catalog No. PSD-806 contains complete details of operation. Write for your free copy.

SMITH, DRUM & CO.

ALLEGHENY AVENUE BELOW 5TH STREET

PHILADELPHIA 33, PA.

Quick as a flash!

. . . to thread, to operate and to maintain

the W&G

"Superlock"

gives you fastest production
at lowest over-all cost

For high-speed, *high-quality* overseaming, hemming, edging and serging, you can't beat the W&G "Superlock."

Not only is it one of the fastest machines of its type ever developed—but every detail is designed for *easier* sewing and less down time. Instant accessibility of *all parts* simplifies threading, cleaning and maintenance. And fully automatic lubrication, differential feed control, automatic hem guide control—plus many other time-saving features—permit maximum production with minimum effort and fatigue.

Send coupon below for the complete "Superlock" story.

WILLCOX & GIBBS
Sewing Machine Co.

214 West 39th St., New York 18, N.Y.

Gentlemen:

Please send me a copy of your 12-page bulletin No. 828, on the "Superlock" machine.

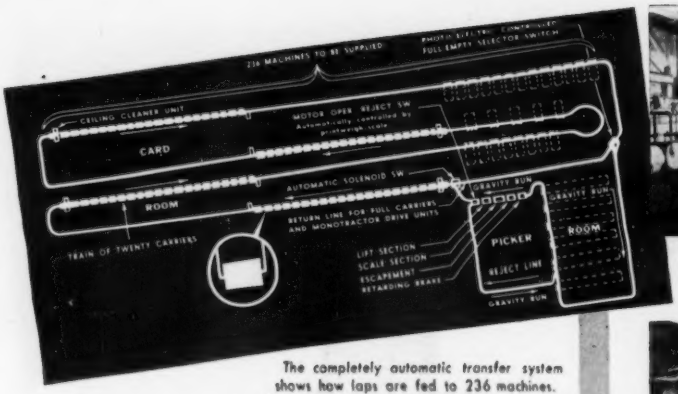
WILLCOX & GIBBS Sewing Machine Company
214 West 39th St., New York 18, N. Y. Dept. J5

NAME .....

COMPANY .....

ADDRESS .....

CITY ..... STATE .....



The completely automatic transfer system shows how laps are fed to 236 machines. Individual laps are held until a train of 20 has been made up, and then the train travels as a unit to the banks of machines.

CONTINUOUS AUTOMATIC LAP DELIVERY

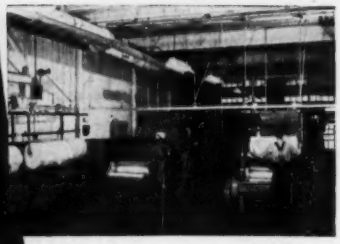
PROBLEM: To move laps to many stations without distorting their shape.

SOLUTION: A completely automatic American MonoRail transfer system.

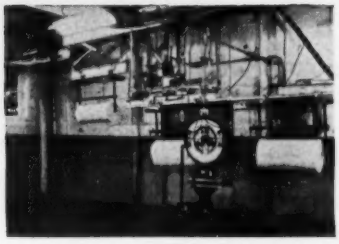
RESULT: An overhead handling system that automatically keeps 236 machines continuously supplied with material and requiring no attention.

This unique American MonoRail installation, in the Borden Mills, Kingsport, Tenn., above and beyond the expected advantage of lower handling costs, has resulted in: (1) An assured supply of good laps with no machines standing idle; (2) No floor wear; (3) No damage or distortion of laps; (4) Elimination of lap waste, and (5) Clean ceilings. The team of 20 carriers traveling over cards—pushed by an American MonoRail MonoTractor—also propels a ceiling cleaner.

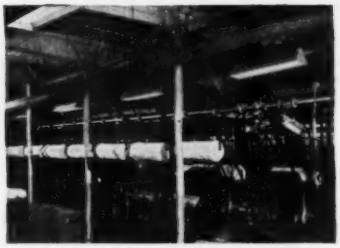
An American MonoRail engineer will gladly explain time and money-saving advantages of overhead handling systems at a time convenient to you. Please write us.



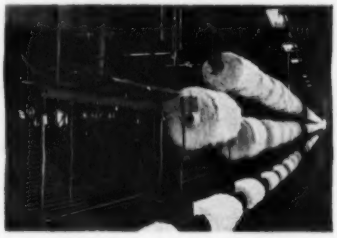
1 Carrier manually loaded at pickers; all subsequent handling entirely automatic.



2 Weight checked within 1½ lb. tolerance. Off-weight laps rejected—full-weight laps delivered to card room—all automatic.



3 Train of 20 carriers travel over cards—pushed by MonoTractor which also propels ceiling cleaner.



4 Lap automatically deposited in receiving tray. Weight of lap lowers tray, allowing passage of following carriers.

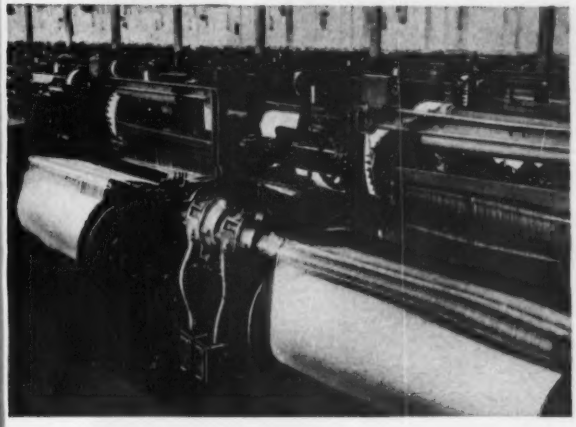
THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE **CLEVELAND 7, OHIO**

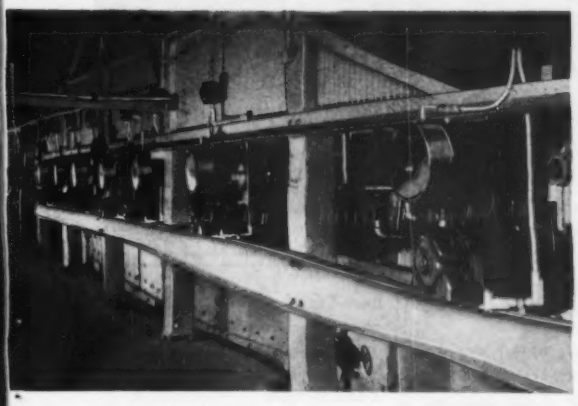
For more information, write direct or use Reader Service post card.

CUTLER-HAMMER

MOTOR CONTROL FOR THE TEXTILE INDUSTRY



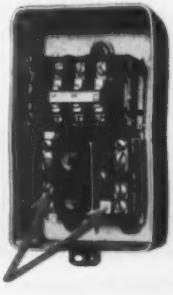
for a **LARGE GEORGIA MILL.** Cutler-Hammer Loom Switches mounted on double pedestals in the weave room of a well known Georgia mill.



for **EDDYSTONE.** Cutler-Hammer Dancer Roll Rheostats and Transfer Switches are used on soaper range in this great Pennsylvania textile mill.

CUTLER-HAMMER EUTECTIC ELEMENT OVERLOAD PROTECTION

One of the most ingenious and useful inventions of all time, Cutler-Hammer Eutectic Element Overload Protection accurately duplicates, measures and responds to heating effect produced within the motor. The world's most widely used and the world's most dependable motor overload protection, not only permits the motor to work *closer* to capacity in all cases but to do so in perfect safety. A standard feature of Cutler-Hammer Control.

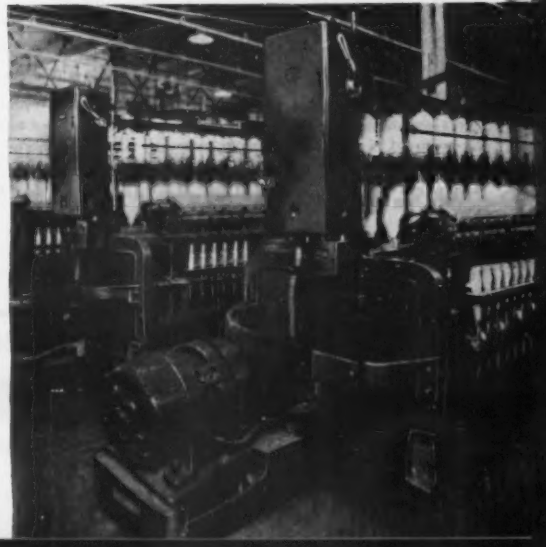


Two things wise management selects carefully

What a foreman is to a crew of workmen, Motor Control is to motors and machines. *Good* Motor Control insures that motorized machines are started properly, sees to it that these machines keep running at the peak of their productive capacities, yet prevents overloading that would lead to breakdown and exasperating, costly delays. And wise management selects *neither* Supervision *nor* Motor Control carelessly, but insists upon the best it is possible to get. 59 years of pioneering specialization in the design and construction of Motor Control has given Cutler-Hammer Motor Control a world wide reputation for performance and dependability. And whether you make exhaustive comparisons for yourself or profit by the experience of other leaders in the industry, your search for the best will lead to but one choice. CUTLER-HAMMER, Inc., 1457 St. Paul Avenue, Milwaukee 1, Wisconsin.

CUTLER-HAMMER
MOTOR CONTROL
C-H

at **GREENWOOD.** Cutler-Hammer Starters and Shipper Rod Switches on motors operating these spinning frames in the Mathews Plant, Greenwood Mills.



AMCO Humidification System in weave room of Broad Brook Company, Broad Brook, Conn.

Control regain and assure a

BETTER WOOL PRODUCT ...INCREASED PROFITS!

AMCO system in spinning room of same mill

You may be losing more than you think if yours is a "dry-air" mill.

Total weight, after all, is dry wool plus moisture. So when moisture in the air is abnormally low, moisture from the wool evaporates into the air — at the expense of the wool you are processing. Is it any wonder that profits begin to dry up when the air dries out?

AMCO Humidification keeps the air, your biggest single asset, "liquid". It governs surrender of regain; assures better control of weights and yarn counts; reduces fly; improves end products by preserving flexibility, resiliency and pliability. And very important . . . that perennial trouble-maker, static electricity, is effectively routed. All good reasons why it will pay you to consult a trained and experienced AMCO engineer without delay.

Should you already have a modern, efficient humidification system and seek to add *cooling*, AMCO can help you with that job, too. Whether you propose installing a ductless system, a unit duct, or a central station air conditioning system, AMCO can tailor-make an installation to fit your specific needs.

Benefits of controlled humidification

- Elimination of static electricity
- Higher yarn yields
- Less fly waste
- Oil savings through decrease in employed emulsions
- Greater spinning, dressing and weaving efficiency due to retention of moisture in yarn
- More flexibility, resiliency and pliability of yarn
- Better control of cloth weights.

Amco Self-Cleaning Atomizer

AMCO
HUMIDIFICATION AND COOLING

AMERICAN MOISTENING CO., AFFILIATED WITH GRINNELL COMPANY, INC. • PROVIDENCE, R. I. • BOSTON • ATLANTA • CHARLOTTE

FOR HALF A CENTURY—

SPECIALISTS IN THE DESIGN,

MANUFACTURE AND APPLI-

CATION OF INDUSTRIAL

ELECTRIC MOTORS

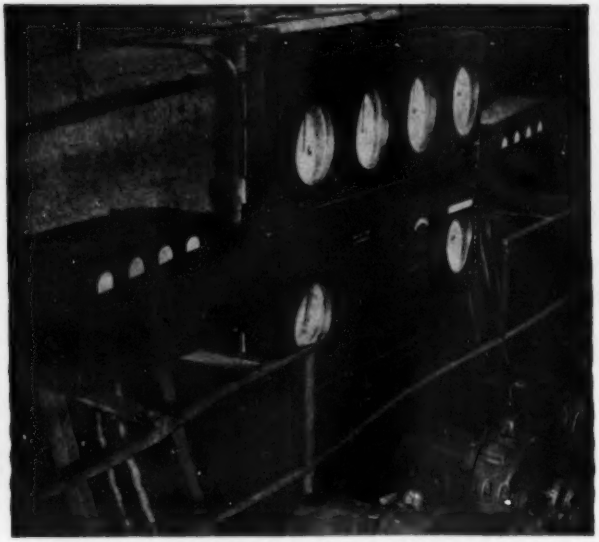
In the March of Electric Motor Progress—we have lead the way in many developments of far-reaching importance to Industry. For half a century, we have created, pioneered, and built specially designed electric motors for the exacting requirements of this country's outstanding machinery manufacturers.

No matter what your motor requirements are—whether special or standard—you can depend upon Louis Allis.

THE LOUIS ALLIS CO.

MILWAUKEE 7 WISCONSIN

50th YEAR 1901-1951



CONSTANT CONTROL OF WARP YARNS. These Bristol instruments automatically control temperature, liquid level and pH on the sheet of warp yarns running through the dye-slasher of Unistel-Batchelder range at Empire Cotton Division, Woods Mfg. Co., Welland, Ontario.

HOLD pH VALUE AUTOMATICALLY

Hundreds of Bristol automatic pH controllers and recorders are used to hold pH at the value known to produce the best results.

With pH in important processes stabilized—time, money and materials are saved, and a uniform quality product results.

Textile mills here and abroad use Bristol continuous pH controllers and recorders on such applications as *neutralizing* after carbonizing and scouring, *conditioning* water for dye and bleach house, *neutralizing* plant waste.

Bristol pH instruments on such applications as these and others in your plant will help you produce better quality at less cost. A typical installation—including other Bristol textile instruments—is shown above.

Write for bulletins on Bristol pH instruments and other Bristol instruments for the applications listed at the right. Address THE BRISTOL COMPANY, 103 Bristol Road, Waterbury 20, Conn.

BRISTOL INSTRUMENTS FOR TEXTILE MILLS

FOR COTTON WEAVING AND FINISHING:

Automatic control for raw stock, yarn, and piece goods, dryers, sour pit, mixing water, boiling-off kettles, and bleaching kettle.
Temperature control for dryers.
Humidity control for dryers.
Slasher control.
Kier-boiling control system.
Dry can control.
Automatic control of dye jigs, dye machines, dye kettles.
Humidity recorders for carding, combing, drawing, spinning, weaving.
Flow meters for measuring steam to each department.
Liquid level recorders and controllers for water tanks and wash wheels.

FOR WOOLEN AND WORSTED:

Automatic temperature control for *scouring, drying, dyeing, steaming* and water mixing.
Coordinated process control for dyeing and wash wheel.
Humidity control for sorting, carding, weaving, spinning.
Time-temperature control of dye vats, machines and tubs.
Liquid level control for water tanks and wash wheels.
Tachometers for yardage through tentering dryer.
Automatic temperature control of water supply.
Control for back washers and back wash dryers.
Controls for scouring, carbonizing, and neutralizing.
Decating controls.

FOR SYNTHETICS:

Control for degumming tanks.
Control for dyeing.
Slasher control.
Control for bleaching and drying.
Humidity control for twist set box.
Humidity control in spinning room.

FOR FINISHING:

Control for scouring, boarding and dyeing.
Temperature control of conditioner.
Control for washing and bleaching equipment.
Completely automatic decating controls.
Humidity recorders and controllers.

FOR POWER PLANT, WATER SUPPLY AND PLANT WASTE DISPOSAL:

Flow meters for steam and water.
Recording voltmeters and ammeters for electric lines.
Recording gauges for steam pressure, etc.
Recording thermometers.
Draft recorders and controllers.
pH and flow meters on waste disposal system.

THE DEPENDABLE GUIDEPOST OF INDUSTRY

BRISTOL

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

Farval pays for itself quickly, many times over

...saving oiling labor
...saving lubricant
...saving bearing expense
...saving production time

WITH Farval you lubricate your machinery or equipment mechanically. Farval does the job quickly and dependably.

Any type of bearing surface, enclosed or open, can be Farval-lubricated with grease or oil. Measured charges of lubricant are metered to each bearing through the unique Dualine Valve, delivered under pressure from a central reservoir, either by a manually operated pump or one actuated by an automatic time-clock mechanism.

Farval is not a new idea. It has proved its value in service over a 23-year period, protecting millions of bearings in every phase of industry—in manufacturing plants, mining and quarrying operations, transportation—wherever there are bearings that have to be lubricated. Thousands of installations on mills, presses, conveyors, cranes, engines and other industrial equipment provide records of money saved. Savings take four forms:

1. Labor saving—Farval eliminates hand oilers. Minimum attention only is required—to inspect system, refill lubricant reservoirs, etc.

2. Lubricant saving—Correct amounts are used without waste, frequently reducing oil or grease consumption as much as 75%.

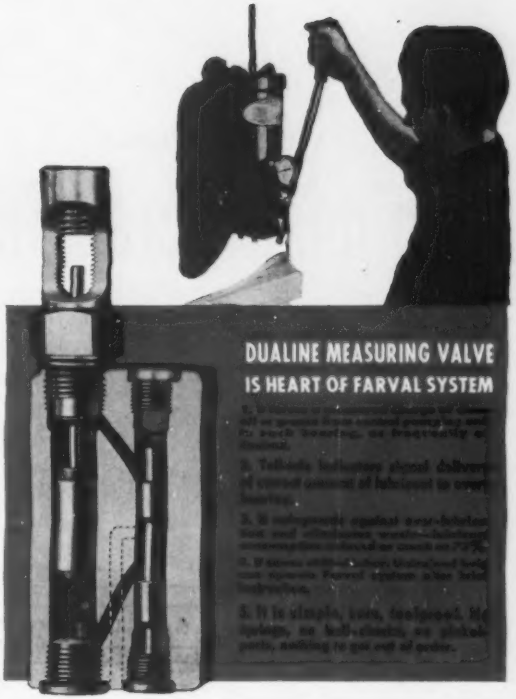
3. Bearing expense saving—No more burned out or damaged bearings with Farval protection. Expense of replacement eliminated.

4. Production time saving—Farval lubricates while equipment is running. No shutting down to oil. No taking a machine out of production to repair or replace bearings.

In short, savings are so positive that you soon recover the entire cost of a Farval system—and savings continue as extra dividends.

If you want figures on savings possible with Farval on the types of machines you operate, just write us. Tell us what equipment you have and ask for Bulletin 25. The Farval Corporation, 3268 East 80th Street, Cleveland 4, Ohio.

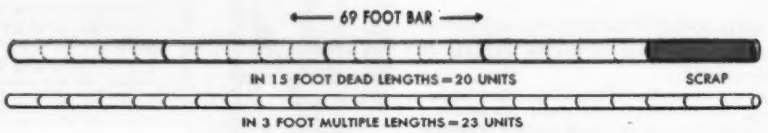
Affiliate of The Cleveland Worm & Gear Company, Industrial Worm Gearing. In Canada: Peacock Brothers Limited.



FARVAL—*Studies in Centralized Lubrication*
No. 122

What you can do to make the supply of Stainless Steel go further

Minimize scrap losses at the mill by ordering the exact sizes that you will use



When you order sheets, plates or bars of Stainless Steel, don't confine your specifications to mere "dead lengths." Such procedure often leads to a waste of material.

Instead, place your orders in terms of *multiple lengths*. In other words, tell your supplier the actual dimension in which you will eventually use the steel. By doing this, you'll often get *extra* units from good steel that otherwise would be consigned to scrap.

For example, suppose you've been ordering 15-foot bars and are using the steel in 3-foot units. If the mill should roll a 69-foot bar, we could cut only four lengths or 20 3-foot units from it. But when ordered in multiple lengths, we could cut 23 units from the same bar, and scrap losses would be minimized.

The same thing holds true when you are ordering sheets, strip, or plates. The more we know how you will use the steel—the actual sizes you are planning to work to—the more chance we have of taking care of your requirements.

Cooperation from all concerned will stretch supplies of Stainless as far as possible. Specifying multiple lengths is one way you can help. (And it's equally important in your orders for alloy steels and plain carbon steels, too.)

Keep these points in mind, too, when you order Stainless.

Tell your supplier exactly where you'll use Stainless and how you'll fabricate it.

Indicate, if possible, acceptable alternates in composition, gage and finish.

AMERICAN STEEL & WIRE COMPANY, CLEVELAND · COLUMBIA STEEL COMPANY, SAN FRANCISCO
NATIONAL TUBE COMPANY, PITTSBURGH · TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM · UNITED STATES STEEL COMPANY, PITTSBURGH
UNITED STATES STEEL SUPPLY COMPANY, WAREHOUSE DISTRIBUTORS, COAST-TO-COAST · UNITED STATES STEEL EXPORT COMPANY, NEW YORK

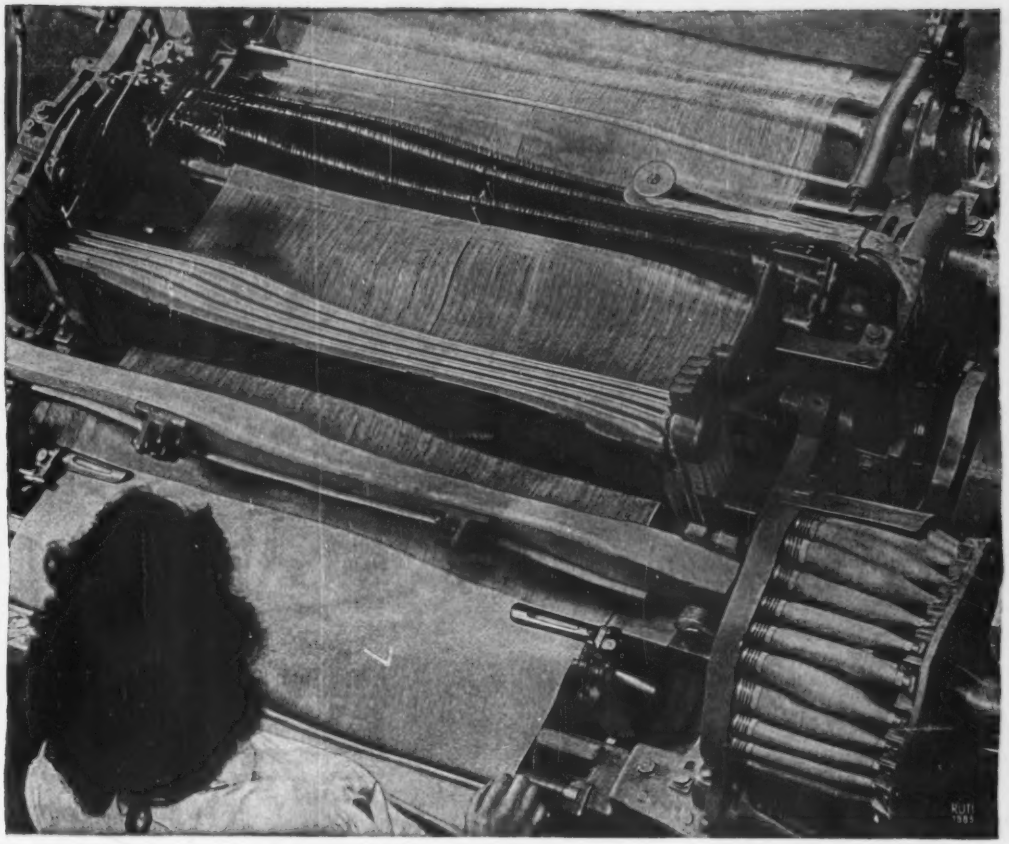
USS

U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

1-983

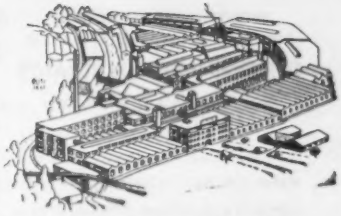
UNITED STATES STEEL



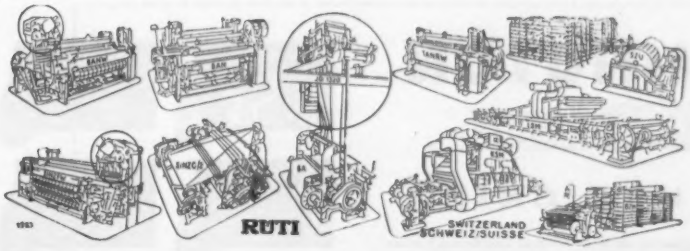
Get high speed Ruti machinery to contribute to your production efficiency

Ruti is the oldest, biggest and leading firm on the European Continent specializing in the manufacture of *modern weaving looms and machines for silk, rayon, cotton, wool, flax and jute, in one word for all textile fibres.*

Their woollen looms and their one-shuttle and multi-shuttle automatic looms for cotton, etc., are to be found in practically every progressive weaving mill in Europe, Australia, Africa and South America, where they produce the best cloth under economical conditions.



Ruti Machinery Works Ltd.
founded by Caspar Honegger in 1842
RUTI (Zurich) SWITZERLAND

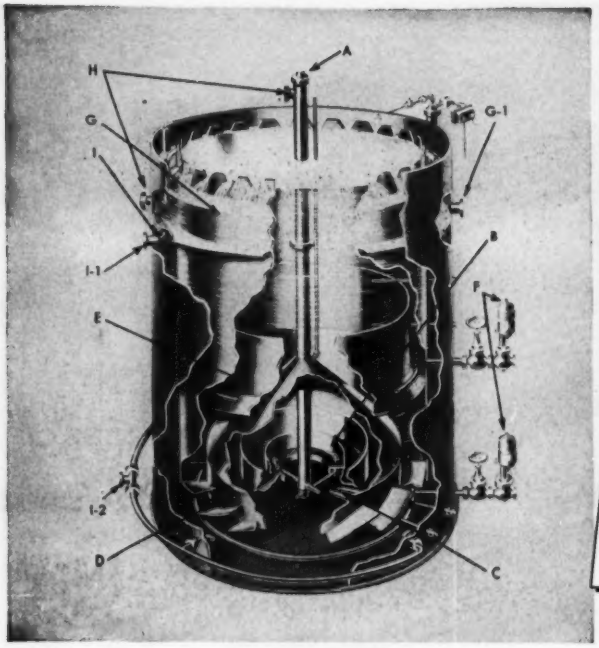


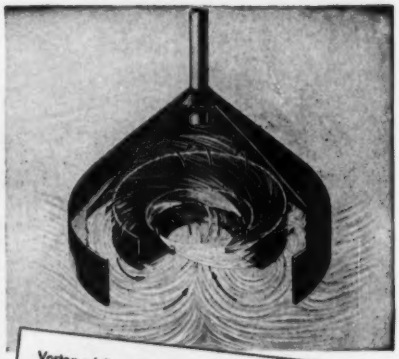
When you buy RUTI you buy results and lasting quality

RUTI

One of the great names in textile progress

See two of our automatic looms at the Canadian International Trade Fair, TORONTO, May 28 to June 8, 1951.





Vortex mixing eliminates need for submerged moving parts in the Worthington Cold Process Slurry Type Precipitation Water Softener and Coagulator.

REACTION TANK of Worthington Slurry Type Softener (Slurry bed eliminated for clarity). (A) Raw water influent line. (B) Vortexor for optimum slurry production. (C) Chemical Applicators. (D) Slurry bed rotator. (E) Symmetrical Slurry concentrator. (F) Proportionate sludge removal. (G) Collector trough for treated water. (G-1) Treated water effluent. (H) Complementary recirculation. (I) Filter wash water compartment. (I-1) Filter wash water suction. (I-2) Filter wash water return.

This slurry bed stays put!

. . . and troublesome variables are out

These Features Give You The Uniformity You Want

WORTHINGTON SLURRY TYPE PRECIPITATING WATER SOFTENER AND COAGULATOR gives consistent, uniformly softened water

If it's clear, uniformly softened water you want, this unique Worthington Water Softener is just what you need. Concentrated quick mixing and rapid recirculation of applied chemicals and raw water, *achieved by hydraulic energy instead of submerged mechanical moving parts*, is an important, progressive development in the water treatment field.

New Bulletin W-212-B5 gives you 16 pages of vital facts about this unique cold process water softening method. Write for your free copy today.

REMEMBER . . .

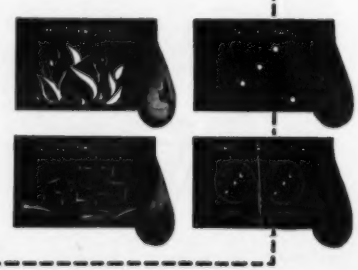
Worthington engineers *all four* water conditioning processes; therefore, can give you unbiased recommendations on which process is right for you . . . further proof that *there's more worth in Worthington. Worthington Pump and Machinery Corporation, Water Treating Division, Harrison, N. J.*

30-1

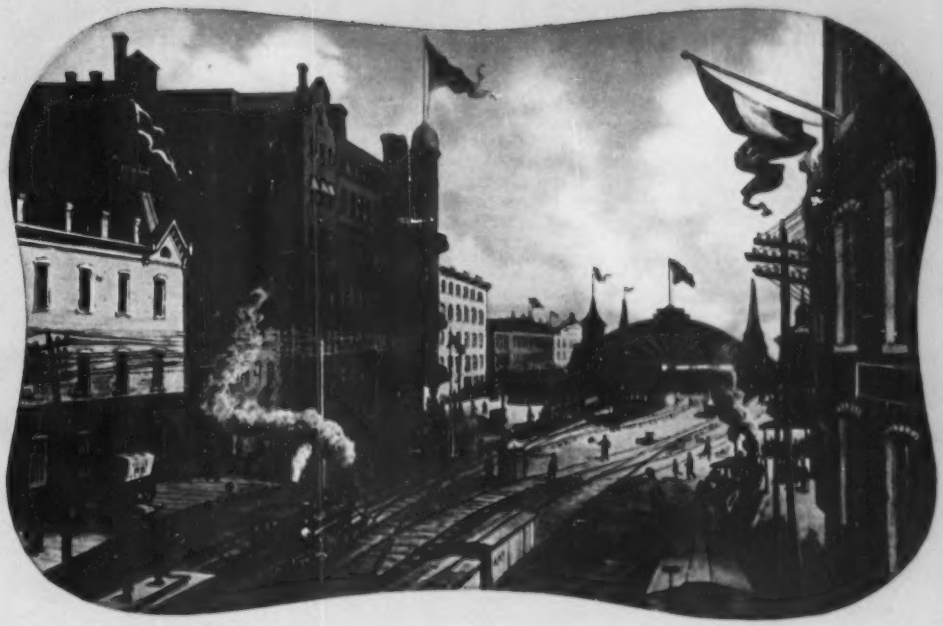
WORTHINGTON

WATER CONDITIONING

Worthington Makes More of the Equipment for All Types of Water Conditioning Systems



Rapid railroad expansion is opening vast markets to mainline distribution.
THE ISELIN DIARY, 1887



THE BETTMANN ARCHIVE

Shunt to the main trunk...

The "motive power" of business is working capital. Shunting this capital from the sidings of idle receivables to the mainlines of production and distribution has long been Iselin's function . . . Iselin Factoring assures availability of your working capital for productive use, turning receivables to cash and ending credit losses . . . For 141 years, our service has been geared to our clients' needs. It can put *you* on the track to greater profits. Send for booklet on our Factoring service to industry.

William Iselin & Co., Inc.

357 Fourth Avenue, New York 10, N. Y.
200 Keeler Building, Grand Rapids 2, Mich.

FOUNDED IN 1808

MAY • 1951

CARD CLOTHING NEWS and views

WRITTEN MONTHLY BY E. A. SNAPE, JR., PRESIDENT, Benjamin Booth Company PHILA., PA.

The SURE WAY To Know What

STRIP-O-MATIC*

Will Do For You . . . . . TRY IT!

STRIP-O-MATIC *Is Easily Installed!*

NO COSTLY METHODS TO PUT ON! . . . Just the usual type of apparatus and trained men accustomed to regular Fillet Clothing.

Moreover, STRIP-O-MATIC offers no difficult operating problems.

For almost 60 years BENJAMIN BOOTH COMPANY has supplied the Textile Industry with Quality Card Clothing.

You can always count on our superior Card Clothing to do a better job for a longer time.

If you are not now using STRIP-O-MATIC, the revolutionary card clothing that reduces stripping to a minimum to effect tremendous savings, I urge that you test it yourself to learn just *how much superior* it is to all other card clothing.

I could—and have—related its many advantages to you (more than 200 plants have taken me up on it), but the one sure way for you to know its advantages is to try it in *your* plant. Of those plants now using STRIP-O-MATIC, repeat orders are a daily occurrence. That shows us what users think of this amazing clothing.

To point out a few "savings" resulting from less stripping, possibly the greatest are savings in "man-hours", less waste, and greater production because "down time" becomes "production time".

At the same time—you card better, are able to make a better product.

At the outset I termed STRIP-O-MATIC revolutionary. It has also been termed that by textile users. Here, for the first time, is the type of card clothing needed by the industry for so long a time. It is no longer "new" in an introductory sense, having been on the market for two years, but it remains "new" in the sense that it is the "one and only" of its kind.

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President,
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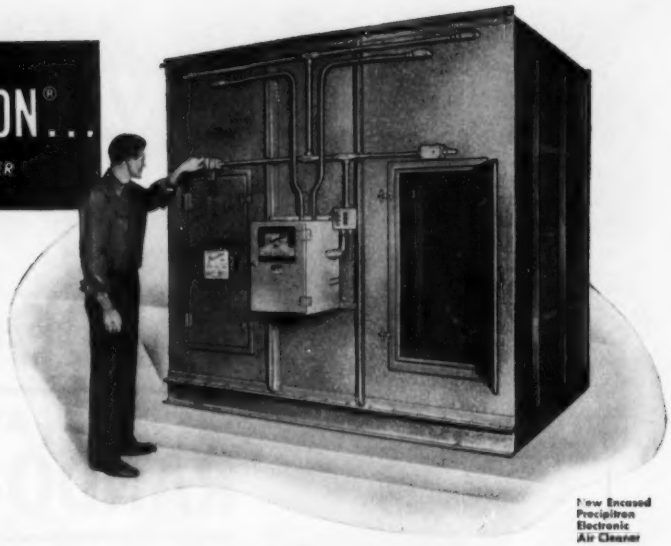

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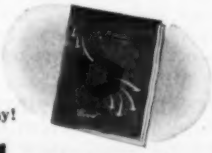

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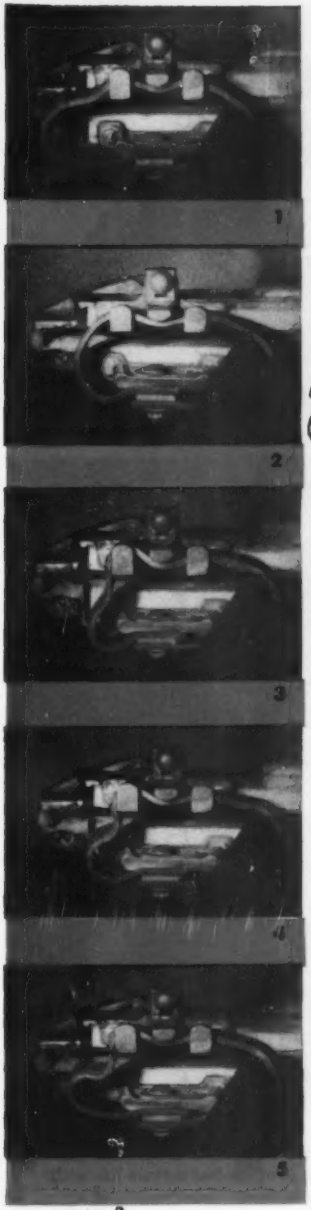

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STRAIGHT CHECK STRAPS

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Look! See what happens to a straight check strap in less than a second! . . . as shown in this series of "frozen-action" photographs. In photo No. 1, the stick is approaching the bumper. It has already made contact with the loop of the strap and is drawing it through the fingers. In Nos. 2, 3 and 4 the stick is at the bumper and the strap is flexing back upon itself. In No. 5 the stick is starting to return and the strap soon will be completely flexed, ready to receive the stick and gently cushion its travel to the end of the lay.

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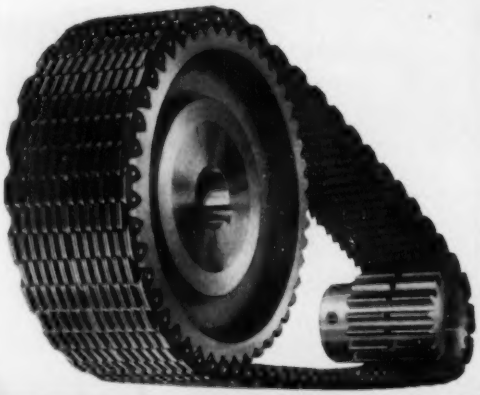

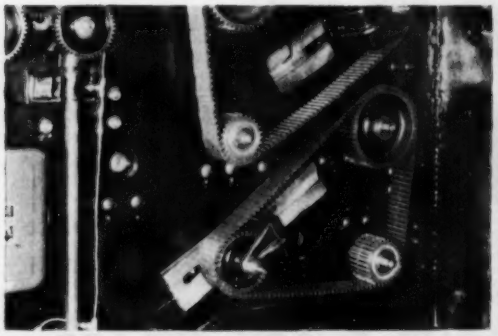

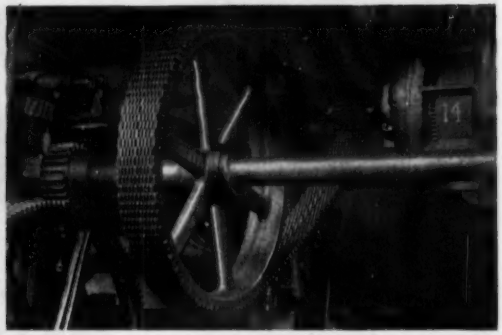

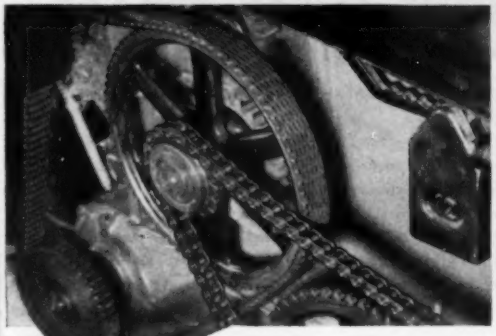

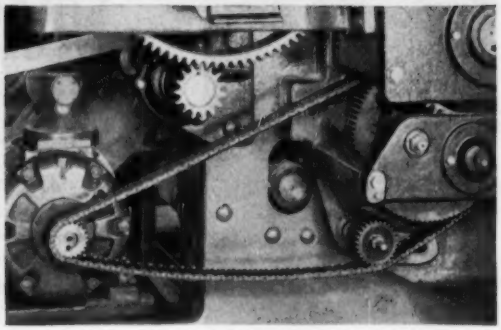

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Lunkenheimer Figure 2125 Bronze Valves cut your maintenance costs in many ways. Three basic designs, all in the 125 lb. class, have interchangeable bodies and parts to simplify your stock room problems. Check the cross sectional views on this page, and ask your distributor or write us direct for Circular 566, describing them in detail.

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Figure 2125
Double-Wedge Disc
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Figure 2127
Solid-Wedge Disc
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Figure 2129
Single-Wedge Disc
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"Even the knitters wouldn't believe it — when they got the production figures on those new Reading Machines. 15 or more dozen pairs in 8 hours . . . and beautiful fabrics, too."

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The "READING"
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We Must Pay As We Go

***We** must do our utmost to pay as we go for our present defense program.*

On that proposition those who speak with authority are remarkably well agreed. This editorial – the second in a series on our mobilization for freedom – sets forth in simple terms why there is this agreement.

Next year – the fiscal year beginning next July 1 – the federal government's budget calls for the expenditure of $10 billion more than is scheduled to be collected in taxes. The deficit is due to the increase in defense expenditures.

A part of this deficit can be eliminated by cutting non-essential expenditures and increasing efficiency in the defense program. There is wide agreement on this. It is the duty of the President and Congress to see that it is saved.

How the remaining deficit anticipated in the federal budget–$5 billion to $10 billion–is handled is crucial. The government can meet it by raising taxes–by paying as we go. Or it can borrow, issuing more government bonds.

Borrow Again?

We relied heavily on borrowing in both World War I and World War II. In World War I only about one-third of the expenditures of the federal government were met by taxation. In World War II about 45 percent were met in this way. The rest we borrowed. Some people ask, why can't we rely heavily on borrowing again? Why is it crucially important to avoid adding $5 billion to $10 billion to a federal debt that is already $257 billion?

Part of the answer is found in the contrast between this defense program and our all-out effort of World War II. Another part–and one that is all-important in combatting inflation–results from the rapid decline in the purchasing power of the American dollar in recent years.

We went "all out" in World War II. We put almost half of everything we produced into our military effort. Taxes high enough to pay the financial costs as incurred would have meant huge tax increases. It was feared that such increases would kill financial incentives to get "all out" production. Since we expected the war to be short, borrowing seemed a safe expedient. Price control and rationing, with wartime patriotism to give them effective support, were relied upon to keep in check the inflationary pressure created by borrowing rather than taxing.

Our present defense program is scheduled to take a much smaller share of our production, but to take it over a much longer period. At its peak, the program as now planned will take only about 20 percent of our total national production. But, to use General Bradley's phrase, "the conditions under which we labor may persist for ten, fifteen and twenty years."

What About Controls?

For a period of any such duration it would be foolhardy to expect that the sort of controls we had for the few years of World War II could hold in check the inflationary pressure created by not paying as we go. It would be as foolhardy as it would be for a family to plan on borrowing to pay the expenses of a member discovered to be afflicted by a chronic ailment which might last a long lifetime.

Obviously, the only safe thing to do in such a case would be to adjust the family budget so that the expenses of the illness would be paid currently.

Our heavy reliance on borrowing in World War II had consequences which block a successful repeat performance.

If the borrowing had been done by persuading individuals to transfer their savings into government bonds, relatively little inflationary pressure would have been created. What the government would have spent with the proceeds of such bond sales would have been subtracted from the money individual consumers could spend.

But most of the borrowing was done from banks. That course expanded the amount of money available to the government without any offsetting subtraction of money from the hands of individuals. Thus, when direct price controls were removed after the war, this bottled-up purchasing power contributed to a price inflation which has cut purchasing power of the American dollar about in half – and decidedly changed the attitudes of the American people toward that dollar.

During World War II, Americans in general believed that:

The war would not last long.

The dollar would hold its value, and even gain value after the war.

Many wonderful new products would be available in the postwar period.

Today the American people have:

Seen the value of their dollars melt away fast.

Been assured that, at best, we may have a 10-15-20-year pull ahead.

Been warned not to expect a postwar paradise anytime soon.

One result of these changed attitudes is a notable lack of enthusiasm for government bonds on the part of individual investors. This is indicated by the fact that since Korea redemptions of E bonds have exceeded sales by about $600 million. Another result is a continuing rush to convert dollars into physical goods and equipment or claims on them. This trend weighs against financing the prospective federal deficit by borrowing from individuals.

Borrowing from banks to meet the deficit would again add fuel to inflation.

The prospective deficit is due to federal expenditures for military goods. Even if they are not blown up or shipped abroad, these goods will not be available to civilians. But the money paid to those who produce military goods will still be available to bid up the prices of civilian goods. Thus, at a time when people show relatively little disposition to save dollars, a menacing inflationary pressure – an inflationary gap, the economists call it – will be created.

If our fight against inflation is to be successful this gap must be closed by taxes. We need to do other things, too, for inflation has many different causes. Credit expansion must be effectively controlled. Production of civilian goods must be increased as much as possible by eliminating waste and inefficiency. But a pay-as-we-go tax program is basic to a successful attack on inflation. And inflation – unless it is checked – could wreck our defense effort.

We cannot pay as we go merely by soaking harder the corporations and those in the upper income brackets.

As the President's Council of Economic Advisers has reported, "by far the largest part of the additional revenue must come from the middle and lower tax brackets. These are the brackets in which the great bulk of the income is located."

Taxes Can Attack Inflation

By spreading tax increases broadly, taking small amounts from many people, inflationary pressure would be effectively reduced. It is the expenditures of the great mass of people, rather than the small numbers in the upper income tax brackets, that create most of the pressure. Moreover, it is possible to increase taxes broadly without killing the economic incentives to produce. Maintaining these incentives is essential to the success of the defense effort.

Our elected representatives cannot be expected to be enthusiastic about a pay-as-we-go tax program. It involves increasing the taxes of the great body of their constituents, an operation completely lacking in political glamour. However, such a program also involves the integrity of the American dollar. And that is absolutely essential to the success of the defense program. We shall be very foolish if we do not let our leaders know that we want them to do everything possible to pay as we go.

McGraw-Hill Publishing Company, Inc.

Here's a **testing program** for the cotton-yarn mill

By **DAME S. HAMBY,** *Assistant Professor, School of Textiles, North Carolina State College*

it tells you...

- . . . How often to test incoming fiber
- . . . How often to test blends
- . . . What to use to test laps
- . . . When nep counts should be made
- . . . How many cards should be sampled
- . . . The importance of tests at the drawing frames
- . . . The lesser importance of roving-frame testing
- . . . That daily yarn strength tests are needed
- . . . That twist tests for singles are needed less often
- . . . Twist tests for ply yarns should be daily
- . . . The importance of using a stroboscope
- . . . When to grade yarns
- . . . The great importance of moisture testing
- . . . To test the product of every machine that has been worked on!

DETAILS given in the following pages are specifically for mills spinning cotton, but the information also can be applied by any intelligent mill man to wool or spun-synthetic processes.

▶ The frequency of routine testing in the textile industry is a matter of concern to management as well as to the quality-control engineer. Management quite frequently tends to "undertest," whereas the quality-control engineer has a tendency to "overtest."

The textile industry in general does a comparatively small amount of testing in relation to the volume of material produced. There are exceptions, and these are usually the larger companies and others who are selling to very definite and strict specifications.

For a testing laboratory and a quality-control department to be self-sustaining from a cost standpoint, it is important that they not find themselves making ten tests where one would do the job. On the other hand, for a laboratory to justify its existence, it must make a sufficient number of tests to present a true picture of the current quality in the mill.

There are methods, one of which will be discussed later, that have been developed by the statisticians for calculating the exact sample size needed to meet certain conditions. Most mills are reluctant to use this system, since it will in some cases increase the amount of testing beyond the capacity of their laboratory. This increased testing in some cases is justified, whereas in others it may not be found necessary.

The required quality of the finished product in most cases determines the number of tests made on stock during processing and on the finished material. For example, a mill producing a material that is sold under a very strict and close specification should be tested at more frequent intervals than a mill manufacturing a less exact material.

The problem of establishing the frequency and sample size for testing is an important one and should be given serious consideration before any sampling procedures are issued.

fiber tests

Fiber testing in mills is gaining more and more in popularity. All of the mills are not using the results in the same manner, but a larger percentage are making fiber tests of one type or another.

Some mills use the fiber results as a basis for accepting or rejecting shipments, and the sample size varies from 10% to 100% of the shipment. If the 10% tested meets the mill requirements, the shipment is accepted; however, additional testing may be found necessary if more information is desired. The 10% testing usually includes staple length (as a check against classing), strength, and fineness. Any additional testing in most cases will be only to check fineness, which, of course, is tested not for the purchasing office but to provide information for processing.

Fineness. One of the biggest problems that a mill usually has is neps, and the degree of fiber fineness is one of the contributing factors in the formation of neps.

FIBER TESTS not only can be used to tell which bales should be used, but also to predict the strength of finished yarn.

One general superintendent recently made the following statement concerning fiber fineness, "We test on the Micronaire each bale of cotton we buy—two samples per bale before it is run through the mills. We have learned that we can control our neps by rejecting all cotton that falls below a rating of 3.0."

One Southern mill uses fiber-test results as a basis for purchasing all cotton used by the mill. The manager has samples of cotton sent to the mill from the broker or cotton merchant; and he selects from these samples, on the basis of staple, grade, and character, the bales that are to be shipped to the mill. After the bales selected have been received by the mill, every bale is tested for staple, fiber strength, and fineness. Final acceptance depends on the laboratory-test results.

The test results are used not only as a criterion for purchasing the cotton, but also to predict the strength of finished yarn. This particular system was set up as the result of low yarn strengths that practically closed the mill before anyone realized the cause of the loss and variations obtained. After a thorough investigation by the mill management, it was found that the fineness and strength of the cotton fibers were varying considerably from shipment to shipment; and as a direct result, yarn strength was also varying.

The demand for fiber testing has reached such proportions that one of the largest cotton merchants in the world is now planning to increase his laboratory facilities to the extent that his company can test every bale of cotton it handles to determine fiber properties. Each bale is to be labled with the fiber properties so that the mills can specify exactly what cotton they wish to buy and be sure of getting that cotton.

The amount of fiber testing necessary depends upon how the results are to be used. If the results are to be used for purchasing only, it is usually not necessary to test every bale received for all fiber properties. The only requirement necessary in this case is that the sample size be sufficient to give a representative average of the entire shipment.

On the other hand, if the results are to be used to determine processing methods, then it may be desirable to increase the testing, even to 100% if necessary, to make sure that all bales are properly classified.

If check tests are to be made on blends during processing, the sample is usually taken after the final drawing operation. It is necessary to test each new blend only once or twice with from three to six tests per sample; however, if the same blend is run continuously, then it is usually tested daily or every other day.

picker tests

There are only two routine tests made in the picker room—lap evenness and moisture.

Evenness. The frequency of testing for lap evenness depends on several factors, the two most important being the mechanical condition of the pickers and the evenness or uniformity required of the finished product. The average mill will not find it necessary to check each picker more than once each week, and this test should be for the complete length of one lap.

The most common instrument used is the Saco-Lowell lap meter. The length of each sample, whether 12, 18, or 36 in., depends upon the individual mill and the precision and accuracy with which it wishes to operate. The 1-yd. length, with an allowable variation of ±2/5 oz., is satisfactory in most mills.

Moisture. Lap-moisture tests are made less frequently because of the use of such instruments as the Aldrich regain indicator. The main reason for making moisture tests at this point is to control the actual amount of stock in the lap with the moisture variable eliminated. This checking is done very easily and conveniently with moisture indicators.

WEIGHING LAPS shows total weight. Evenness within the laps requires a lap meter.

card tests

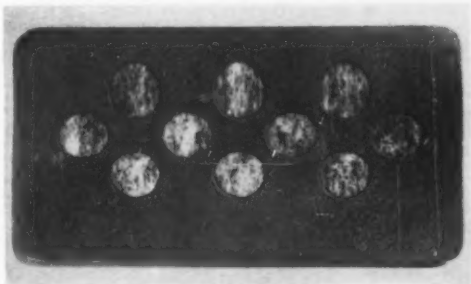
Nep Counts. The frequency of nep counts varies considerably from mill to mill depending upon the type and grade of yarns and fabrics produced. Mills manufacturing industrial fabrics and yarns make very few if any nep counts. Mills producing the better grades of dress goods, sheetings, etc., usually make counts daily. As an example, one mill, producing fine-count sales yarns and top-grade fabrics with 600 cards, checks each card weekly. Another mill, producing heavy yarns and fabrics with over 700 cards, checks only 50 cards per week for nep count.

When selecting the card to be checked, keep the sampling time approximately the same with regard to the stripping cycle. Some mills keep records of the grinding cycles so that this variable may be considered when studying the test results.

As to the standard number of neps that can be expected, it is impossible to give any reasonable estimate even for a specific cotton. The U. S. Dept. of Agriculture issues standard counts, but it is almost impossible for a mill actually to duplicate these results, since there are so many variables involved. The time of sampling, the counting technique used, the size of the area counter, and operator error are all factors, among others, which influence the results.

Sliver Size. Sliver size tests should be made daily on each weight of sliver being produced. The number of cards sampled should be a sufficient number so that each card is checked every two to four weeks. The sampling procedure should be arranged so that no one card is resampled until all other cards have been checked. This type of sampling procedure will help to find any cards that are not functioning properly.

Some mills not equipped with a sliver-evenness tester use the sliver-size test results to calculate the percent variation in the sliver. For example, if five 1-yd. lengths are weighed from one card, the percent variation in the five weights will give an index of variation. The yard-to-yard



NEP TEMPLATE, developed at N. C. State, provides method for making accurate counts.

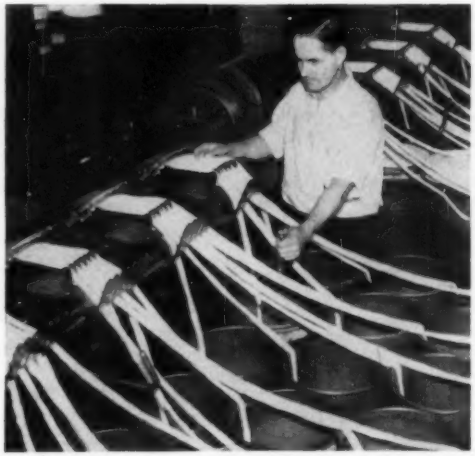
SLIVER-SIZE tests should be made daily on one of the several testing machines that have been developed. Sight testing can detect only gross irregularities.

ELECTRONIC TESTERS, such as the Uster shown, are relatively new tools that can go far in improving the quality of yarns and ultimately that of finished fabrics.

variation over a comparatively few yards will show a fairly low amount of variation; however, the card-to-card variation is usually rather high.

Sliver Evenness. The number of tests for card-sliver evenness usually is not so large or so frequent as for sliver size. Unless there are good reasons in some particular mill to do otherwise, it is usually not necessary to check each card less than every two or three months. If the factors which affect sliver evenness, such as machine settings, machine speeds, lap evenness, etc., are held fairly constant, then it is reasonable to assume that the sliver evenness will remain fairly constant. As to the direct effect of lap evenness or sliver evenness, there is very little if any information available as to the correlation between the two. Lap evenness undoubtedly is transferred to the sliver, but on a long-length basis because of the draft on the card.

The standard amount of variation as tested on the Saco-Lowell sliver tester for card sliver is 12%. Any sliver with less variation is considered very good, and any sliver with a greater amount of variation is considered fair to poor sliver.



DRAWING FRAME can be used to control sliver size if adequate tests are made at this process. Because all stock converges here, the frame is a key point for quality control. Very little blending is done in succeeding processes.

drawing tests

Sliver Size. The drawing frame is the key point for control in the card room. All stock converges at this point; and, since there is a comparatively small number of these machines as compared with cards and roving frames, testing here affords an excellent chance for size control with a minimum of effort with regard to sampling, testing, gear changing, etc. Another reason that the drawing frame is an excellent control point is that the blending and evening is practically complete after the stock leaves the frame.

All deliveries of finisher drawing should be checked for sliver size daily. Some mills test all deliveries on each shift. Here, as is the case in all quality control, the volume of testing depends upon the particular situation.

Sliver Evenness. Regarding size control, the drawing frame is an excellent point for evenness control. More mills have benefited by centering their evenness testing and control at the drawing frame than at any other one point in the mill.

The usual sampling procedure is to select samples on a definite pattern so that all deliveries will eventually be included within a period of one month. All frames should be tested at the start up following an overhaul or clean-

CONTROLLED CONDITIONS are essential for precise results, such as are required in strength testing. They are not needed for testing such qualities as nep counts, appearance (grade), and twist.

ing job, regardless of whether or not they are scheduled for testing at that time.

The sample should be of sufficient length so that 10 yd. can be passed through the evenness tester. Great care should be exercised in handling the sample prior to testing, since any slight disfiguration of the sliver will alter the test results. The normal percent variation for quality sliver should be approximately 24% when tested on the Saco-Lowell sliver tester. Standards are being established for the Uster evenness tester and similar instruments. Mills at present will have to establish their own standards until sufficient data can be collected to issue representative values for these newer types of evenness testers.

roving tests

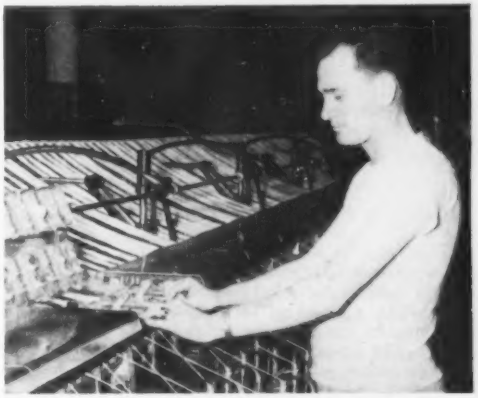
Size. Roving is another test that should be made daily on one or more shifts. For mills using the slubber, intermediate, and fine frames or speeders, it is usually only necessary to test the final-process roving on a routine basis. The other roving processes should be tested, but only as a spot-check measure.

The length of roving weighed is usually 12 or 24 yd., although some mills producing fine roving use as much as 48 yd.

The tolerances allowed for roving size depend entirely upon the allowable variation in the spun yarns. One factor that should be remembered when sizing roving is the amount of moisture present. The roving should have a constant weight of fibers present, regardless of the moisture present. If no effort is made to control, or at least to compensate for, the amount of moisture present in the roving, it will be impossible to control the size of the spun yarn.

Evenness. If the evenness of the drawing sliver is well controlled and stays constant, it is not necessary to sample roving for evenness testing as frequently as sliver, provided the roving frames are in good mechanical condition. Routine testing of each roving frame should be on a cycle of from two to three months. However, frames should be checked after each overhaul for changes in roll settings, cleaning, or any other variations that could effect the evenness of the roving.

The length of sample tested is usually 10 yd., the same as for sliver.



ROVING-FRAME TESTS are not so important as some others; emphasis should be on the final-process roving, not on the slubber.

Evenness charts, as recorded by the Saco-Lowell and Uster testers, should be studied very carefully for trends or patterns. Frequently a pattern can be found that will aid in determining the cause of unevenness. If the pattern occurs at definite intervals and the draft of the process is known, it is possible to calculate exactly which roll in the drafting element is causing the unevenness, should that happen to be the source of the trouble.

yarn tests

All the different yarns should be tested daily for strength. The sample size should depend upon the quality of material produced and the requirements of the finished yarn. The number of samples usually taken varies from 10 to 50 per yarn number, with from one to five breaks made from each of the bobbins. Only a comparatively large mill will take 50 bobbins and make four breaks per bobbin. The average-size mill can probably get a reliable average from 10 to 20 samples with two to four breaks per bobbin. The sample size actually used depends on two major factors: the amount of variation found in the material, and the precision desired.

THE MOSCROP single-end tester can make a great many strength and elongation tests, automatically, when needed.

Strength. The method of determining single-yarn strength preferred by most mills is the testing of 120-yd. skeins. This method is the most popular because of the speed with which the test can be made and because the yarn number of each skein tested can be easily and quickly determined on a quadrant balance. With the skein strength and yarn number, it is an easy matter to calculate the count-strength product, also known as the break factor, which is used almost exclusively as the method for comparing single-yarn strengths.

Twist. In most mills, it is not necessary to make twist tests in single yarns daily. Once the machine set-up is established and the machine started, it is only necessary to check the twist occasionally.

Spindle Speeds. By the use of a stroboscope, the spindle speeds can be checked on several machines daily. The spindle speeds obtained by this method can be used for two main purposes: namely, to know what twist variation can be expected from spindle to spindle, and also to locate any spindles that are not functioning properly.

In cord and thread mills, it is usually advisable to test the ply and cable twist daily since those types are usually sold against a fairly close specification.

Evenness. The testing of yarn for evenness is a comparatively new procedure, and most mills have very little background in the use of the new-type instruments.

It is generally agreed that all yarns produced should be tested at least every two weeks. The length of yarn tested from each bobbin should be at least 10 yd. This type of sampling is of a routine nature and is intended only to give a picture of the quality being produced.

Another worthwhile use for this type of tester is to take roving with a known percent variation and place

How to calculate

The ASTM "Standards on Textile Materials" presents a method for calculating the sample size needed to satisfy a given set of requirements which in actual practice has been very satisfactory.

The information needed to use this method is the coefficient of variation, an arbitrarily chosen sampling error, and a probability factor.

The coefficient of variation is calculated from the process standard deviation and process average. With these two values, divide the standard deviation by the average and multiply by 100; and the answer is the coefficient of variation. (The method used to calculate the standard deviation is outlined in Sections 13 and 14, Supplement B, ASTM Manual on Presentation of Data.)

The sampling error is the working range within which one wishes to operate. If it is satisfactory for the average of the test results to be within 3% of the true process average, then the sampling error is said to be 3%.

The probability factor is another way of saying "what percent of the time do I wish to be within the allowable sampling error?"

For example, suppose that for a certain type of yarn the average was found to be 90 lbs. and the standard deviation was calculated to be 4 lb. Then the coefficient of variation would be $4 \div 90 \times 100$, or 4.4%. Now if it is satisfactory to be within 2% of the true process average 90% of the time, the sample size can be calculated by the following formula:

it in the creel of a spinning frame and test the yarn spun for evenness. This test gives some indication of the amount of unevenness the spinning frame is adding to the yarn and to what extent the spinning process magnifies the unevenness already present in the roving.

Yarn Grade. Yarn-grade boards should be made on all yarns that are sold against a grade specification. Boarding should be done at least on a weekly basis, if not more often, and the number of bobbins samples should be at least 15 to 20 for the average-size mill.

Mills using large seriplanes for grade and evenness inspection should follow the same sampling procedure.

Moisture. One of the most important tests that can be made by any mill is the check for moisture regain in yarn.

Knowing the amount of moisture present in yarn is important for two reasons: first, from the processing standpoint, and second, from the purchasing or selling point of view.

Without sufficient moisture present in the fibers, a mill will experience such processing difficulties as static electricity, dust, and uneven drafting. With an excessive amount of moisture, it is difficult to maintain yarn sizes; and baggy or slack ends will occur, as well as other processing difficulties.

From the business standpoint, moisture is one of the easiest ways of losing money. For example, if cotton is purchased with from 7 to 7.5% moisture and the yarn manufactured from that cotton is sold with 6 or 6.5% moisture, the difference in moisture represents a loss.

On the other hand, if cotton yarns are purchased on a poundage basis and the yarn is found to contain 7.5 to 8% moisture and the invoice is not corrected for the additional moisture, then water is purchased at the same price as yarn.

Without any moisture testing, it is impossible to know if the yarn contains the legal amount of moisture or whether it contains more or less.

The American Society for Testing Materials gives 7% regain as the commercial regain for the cotton fiber, and all shipments of yarn should be corrected to this regain.

***SINGLE-END** strength testing is slow but is accurate and is essential for such yarns as cords.*

In sampling for moisture tests where the results are to be used within the mill for process control, random samples should be taken daily. It is usually not necessary to make this test on more than one shift.

When the results are to be used to correct shipment weights, then, of course, each shipment should be sampled at random, with enough samples taken to assure a representative average.

sample size

$$N = \frac{(t)^2 (V'')^2}{E^2}$$

N = Number of samples or tests
V'' = Coefficient of variation
t = Probability factor*
E = Sampling error

* Probability Per Cent	t value
90	1.645
95	1.960
99	2.576

$$N = \frac{(1.960)^2 (4.4)^2}{(2)^2}$$

$$= \frac{(3.84)(19.4)}{4}$$

$$= 18.6 \text{ or } 19$$

This means, with a process coefficient of variation of 4.4, that if 19 samples (in actual practice 20 samples would probably be taken) were selected, the average of these tests would be within 2% of the true process average 95% of the time.

A probability of 95% is usually considered as sufficient protection; however, if it were felt that a probability of 99% were needed and a sampling error of only 1%, then the sample size would be 50 for the same process. This demonstrates the fact that the higher the degree of accuracy required, the greater will be the number of tests.

Regardless of the methods used in arriving at the amount of testing necessary, this one thought should always be kept in mind: A finished product that meets all requirements is the ultimate goal, and anything that can insure that goal should be done.

Overhauling openers and pickers
Blows per inch—Kirschner vs. blade
Ball bearing on pickers
Pneumatic or hydraulic picker-lap releases
Controlling lap weights on Monday-morning start-ups
Portable vs. vacuum card stripping
Changing to 14-in. coilers on cards
Covering stripper lines running outside mill
Ball-bearing rolls on drawing frames
Controlled-draft drawing vs. conventional
Creeling roving frames on the doff or at random
Ball-bearing roving top rolls

Answers to 12 Carding Problems By Georgia Operating Executives

ANSWERS TO 12 QUESTIONS covering mill practices in processes from opening through warp preparation were submitted by 34 Georgia mills at the Spring meeting of the Textile Operating Executives of Georgia. In this report, answers to questions on opening, picking, carding, drawing, and roving are given in condensed form for quick, easy reading. Answers to spinning and warp-preparation questions will appear in the next issue of TEXTILE WORLD.

Cleaning and Overhauling Openers and Pickers

Question: Give briefly your daily and weekly cleaning schedule on openers and pickers, also your overhauling schedule for these machines.

Answers:

[Cleaning schedules—see chart in next issue of TEXTILE WORLD.]

Overhauling openers
- Once a year—9 mills (one of these inspects every 6 mo. and replaces worn parts)
- Once every 6 mo.—6 mills
- Once every 4 mo.—2 mills
- Once every 12 to 18 mo.—1 mill
- Once every month—1 mill
- Once every 9 mo.—1 mill
- Once every 3,200 hr.—1 mill
- As needed—3 mills

Overhauling pickers
- Once every 12 to 18 mo.—1 mill
- Once every 6 mo.—11 mills
- Once every 12 mo.—7 mills (1 mill inspects thoroughly every 6 mo., replaces worn parts)
- Once every 8 to 12 mo.—1 mill
- Once every 9 mo.—1 mill
- Once every 4 mo.—1 mill
- Once every 3 mo.—1 mill
- Once every 10 weeks—1 mill
- Once every 3,200 hr.—1 mill

Pneumatic or Hydraulic Lap Releases

Question: What is your experience with pneumatic or hydraulic lap releases for pickers on the following points:

a. Effect on lap evenness
b. Effect on lap yardage
c. Effect on split laps
d. Effect on lap uniformity
e. Effect on maintenance cost

Answers:

Mill F: Two pickers equipped with pneumatic release. More even pressure helps lap uniformity, adds yardage, and saves time in doffing. We think the greatest saving will be in maintenance.

Mill Q: Just installed pneumatic release on our pickers. Tests indicate no significant improvement in evenness, uniformity, or number of split laps. We have added 14% poundage to our laps.

Mill S: One Saco-Lowell pneumatic lap release installed for 3 mo. No variation in laps other than normal. Lap yardage was increased by 6 yd. without changing package size. No difference noted in split laps; no change apparent in lap uniformity.

Mill T: One pneumatic release in use for 4 mo. Nine more just installed.

Evenness charts made on Saco-Lowell lap tester showed an average variation of 1.09% on regular lap release, 1.13% on pneumatic lap release.

The pneumatic release allowed increase in yards per lap from 53 to 60, and in pounds per lap from 48 to 54.4.

No difficulty with split laps; no difference in lap uniformity.

Data on operating costs and savings are given in the accompanying table.

Mill W: Two [didn't say what type] operating for 6 mo. No evidence of any change in evenness of laps, in split laps, or in uniformity.

Mill X: When we increased the yardage and weight of our laps, the lap came in contact with the press roll on the last 5 yd. of the lap. The result was a variation of 5 to 10 gr. in the card sliver. To overcome the trouble, we reduced the diameter of our press roll.

Yardage of laps has been increased.

No noticeable effect on split laps.

Lap diameter increased 2 in.

When we tried to increase lap yardage and weight, we increased air pressure. Our maintenance cost in repairing lap pins was extremely high. Rack-assembly bearings were wearing and shells were cracking.

Mill CC: One picker equipped with hydraulic lap release for 6 mo. No difference noted in lap evenness, split laps, or uniformity. Yardage not increased because we don't have required air pressure. Because of fewer mechanical parts, we think maintenance cost will be lower.

Monday-Morning Start-Up And Lap-Weight Troubles

Question: Do you have trouble controlling your lap weights on the Monday-morning start-up, and how do you overcome this problem?

Answers: Of 32 mills answering, 18 said no. Solutions offered to overcome the problem were:

- Maintain standard conditions over the weekend.
- Maintain conditions at 50% of standard over the weekend.
- Run pickers 30 min. before shift starts to warm up machines, flex belts.
- Start humidity 1 hr., 4 hr., or 8 hr. early.
- Discard the first lap.
- Run from a few yards up to 40 yd. on the floor until picker fills up.
- Run out all cotton left in picker over the weekend.
- Set evener motion to make first lap heavier.

One mill uses a small block attached to the quadrant with a piece of rawhide. Before running out the picker on weekends, the block is inserted between the quadrant and shipper rack. Use of this device gives approximately the same feed when starting up that was flowing through when the picker was stopped.

Savings and Waste Using Pneumatic Lap Release on Pickers

Picker data	Regular control	Pneumatic control
Dia. of lap calender roll (inches)	9	9
Rpm. of lap calender roll	9.5	9.5
Lap weight per yard (oz.)	14.5	14.5
Yards per lap	53	60
Lb. per lap	48	54.4
100% lb. per picker per min.	6.76	6.76
Running min. per lap	7.10	8.05
Doff time per lap (machine)	0.30	0.30
Minutes per 40 hr.	2400	2400
Minutes daily cleaning per 40 hr.	300	300
Minutes repair and changes per 40 hr.	165	165
Available running minutes	1935	1935
Laps per 40 hr.	261.49	231.74
Actual running minutes	1856.58	1865.51
% efficiency (estimated)	77.36	77.73

Estimated savings and waste laps per 120 hr. per card	Regular control	Pneumatic control	Laps saved per 120 hr.
AA stock	22.75	20.03	2.72
AS stock	26.33	23.20	3.13
A stock	35.42	31.23	4.19
Waste saved per card per 120 hr.	**Lb. saved per card**	**Total cards**	**Total lb. saved**
AA stock	1.23	161	198.03
AS stock	1.42	24	34.08
A stock	1.90	108	205.20

Pickers	Regular control	Pneumatic control
Man min. per doff	0.60	0.60
Total man min. 40 hr. per picker	156.89	139.04
Savings man min. 40 hr. per picker		17.85
Total man min. 10 pickers, 40 hr.		178.50
Total man min. 120 hr. saved		535.50
Cards		
Total time lap handling min. per 120 hr. per card		
AA stock	70.35	62.02
AS stock	81.43	71.77
A stock	109.50	96.67
Man min. saved per card 120 hr.		
AA stock		8.33
AS stock		9.66
A stock		12.83
Total estimated man min. saved 120 hr. present schedule		
Cards AA stock		1341.13
Cards AS stock		23.18
Cards A stock		1385.64
Total man minutes		2749.95

***PNEUMATIC LAP RELEASE** will amortize itself in this mill (mill T) in about 9 mo., according to the above figure based on a 144-hr. week. This amortization-period estimate does not include savings in efficiency and waste.*

Blows Per Inch—Kirschner vs. Blade

Question: If blows per inch are around 50, is it better to use a Kirschner beater at low speed or a blade beater and increase the blows per inch? Tell why.

Answers:

Mill A: We gather that the Kirschner beater has three blades and the blade beater has two. Therefore, for 50 blows per inch, the blade beater would run 50% faster than the Kirschner. If this information is correct, from a cleaning standpoint you would be much better off with the blade beater at the increased speed, but from a nep standpoint, worse off. Tests indicate that a two-blade beater and a three-log Kirschner at the same

Some participants at the T.O.E. meeting are shown below.

CARDING DISCUSSION was led by Turner Scott, Gen. Supt., Martha Mills, Silvertown.

A PLEA FOR GREATER PRODUCTION was voiced by the principal speaker, L. G. Hardman, President, Harmony Grove Mills, Commerce.

TURNING OVER THE RECORDS to the newly elected secretary of the T.O.E. of Ga., Dean Herman A. Dickert, A. French School of Textiles, Georgia School of Technology, right, is retiring secretary, Robert W. Philip, Vice President & Director of Research, Callaway Mills Co.

speed give equal results from a nep and cleaning standpoint.

Mill C: The Kirschner beater at slower speeds will give better breaking strength to the yarn but slightly less cleaning than a blade beater at a higher speed.

Mill D: We use two Kirschner beaters, one at 1,000 rpm., the other at 1,200 rpm., and 85 beats per in.

Mill E. We believe it is better to use a Kirschner beater at low speed than the blade beater. The Kirschner beater imitates a card in action on the cotton. It makes a very smooth-appearing lap because it pulls small tufts of cotton from the entering sheet at the feed rolls. It also seems to do a much better job of opening and cleaning our cotton than the blade beater.

Mill F: We use a Kirschner beater in our finisher section because it makes a much smoother and, we think, a more uniform lap.

Mill G: We believe the carding beater at slow speed will give the best results because it will not break the fibers as badly, will produce a better cleaning and permit the card to give better results, will make a smooth lap that shows up better at higher card production. The carding beater tends to open the cotton more and cause it to be deposited on the screen more uniformly. A lap with fewer thick and thin places is produced.

Mill H: One school of thought believes in the use of Kirschner beaters for below 1-in. staple, and blade beaters at an increased number of blows per inch for 1-in.-or-better staple length. The other side believes in the use of Kirschner beaters at around 50 blows per in. for better opening. We have not conducted any experiments on this.

Mill L: It would seem to be better to change to a blade beater and increase the speed because more cleaning would be accomplished.

Mill N: To preserve the staple, we would use Kirschner beater at slower speed.

Mill O: This depends largely on grade and type of cotton being run; pounds per hour; type of finished yarn, coarse or fine, plied or single, etc. However, with a few exceptions, on very fine long-staple cotton, we believe a Kirschner beater will generally give better results with lower speeds.

Mill Q: Where the blows per inch are around 50, we believe it is better to use the Kirschner beater at a lower speed. We believe that this beater will give better cleaning and opening and will result in better evenness in the lap.

Mill R: Our pickers are run at an average of 45 beats per in. After making a series of tests, we found that we get better results with a Kirschner beater than with a blade beater. The blade beater removed more waste, but a large percentage of this waste was spinnable fiber. Another disadvantage of using a blade beater is that blades become dull after a very short operating period. Since we are not equipped to sharpen these beaters in our shop, we have to send them to a shop out of town. This requires a great deal of time and expense.

Mill S: No experience. Our beater speeds do not approach 50 blows per in. Our breaker sections, with an Aldrich multi-blade beater, give about 21.8 blows per in. Our intermediate beater is a two-blade beater making 29.7 blows per in. Our finisher section has a Kirschner beater making 31.1 blows per in.

Mill V: Answer would depend on whether this beater was used as back, front, or middle beater. If it is used as a middle beater it would be better to have blade beater and increase the beats per inch. This would give better cleaning without increasing the neps.

Mill Y: If cotton is well opened and cleaned beforehand, we prefer a Kirschner-type beater as it seems to produce a more even lap with less damage to the fiber.

Mill Z: 50 blows per in. seems to be a little high for a Kirschner beater. We would recommend approximately 40 for Middling 1-in. cotton. We prefer the Kirschner beater to the blade because it opens the stock up better and you get more cleaning than from the blade beater.

Mill BB: The answer depends on where the beater is to be located. If it is to be located in the finisher section of the picker, it is better to use a Kirschner beater at about 50 blows per in. This speed gives a much smoother lap. If the beater is to be located in the breaker section of the picker, we obtain a better cleaning with slightly higher blows per inch and the use of a blade-type beater. The blade beater at a little higher speed should give better cleaning and less curling of the cotton than the Kirschner beater run at a lower speed in the breaker section.

Mill CC: We use a Kirschner beater at a speed of 990 rpm. The Kirschner beater gives a better combing action to the cotton with less breakage of fibers than a high-speed blade beater.

Mill DD: We definitely prefer the Kirschner beater. We ran tests by substituting a Kirschner beater for a

3-blade beater in the back and middle section of a one-process picker, and used the same speed. The motes taken out by the Kirschner beater were equal or slightly more than those taken out by the 3-blade beater, and the appearance of the stock was much better.

Mill FF: Holding blows per inch to around 50 and using a Kirschner beater is best. This method does better opening and makes a more even and smoother lap.

Creeling Roving Frames On the Doff or at Random?

Question: State method used in creeling roving frames and the advantages if any, of creeling at the doff compared with random creeling.

Answers:

Ten mills replied that they creel at the doff so that splices will be in the first layer on the bobbin. In some of these mills, spinners are instructed to break out the spliced section when the bobbins run out. Some of these mills stated that piecings in the middle of the bobbin would cause unevenness in the yarn or cause the end to break in spinning.

Other practices, with reasons, follow:

Mill A: All of our single-process roving is doubled in spinning, and because of increased machine efficiency we creel the speeders at any time during the doff. In the past, when we creeled on the doff, at times we would have several frames waiting for the creeler.

Mill B: We creel slubbers and intermediates with the frames in operation, but feel it is best to creel speeders at the doff. Because of the high draft on the speeders, the light places are wound on empty bobbin and removed by the spinner or a bobbin-cleaning machine.

Mill D: We creel the whole creel at one time with the frame running; however, this is a sliver creel and not a roving creel. By creeling on the doff, most splices will go on first layer on bobbin and spinner will throw a lot of them out.

Mill F: We creel our frames as the drawing runs out with the frame running, and we have less piece cans. We don't see any advantage in creeling frames on the doff while the frame is standing, but there is a loss of production. Our hank rovings run from 0.90 to 1.50 hank. If we were making fine hank rovings on Superdraft frames it probably would be necessary to creel frames on doff.

Mill G: We do not creel at the doff. We find we get better production and that the piece-ups are spread out evenly throughout the work. Where the floor space around the frames is limited, random creeling is best because there is less handling at any one time, and fewer roving cans are needed.

Mill H: We creel slubbers and intermediates from full drawing cans. Each frame is creeled as a unit. Shorts are pieced up to take care of any cans that run out before the rest. Speeders are creeled by lines. Shorts are run on the first five or six spindles on each frame. We have had no experience with creeling at doff.

Mill I: We creel our roving frames as they run out, two lines at a time. We creel our Superdraft slubbers on the doff to eliminate slugs due to bad splicing. The bad splicing would be on the bare bobbin and will not get into the work.

Mill J: We broke up our creeling on 126-spindle frames and creel 12 cans at a time on the doff, 1.50-hank roving. On our 64-spindle frames, 1.00-hank roving, we creel seven cans on the doff. We find that we have fewer slubs creeling on the doff, but the greatest advantage is that in running three shifts each shift has the same amount of creeling.

Mill L: Our roving frames are creeled more or less at random with an eye to creeling at the doff if possible. Creeling at the doff where the spliced drawing is cut off the bobbins after creeling is desirable if very fine roving is being made and quality is the paramount consideration.

Mill M: Our finished drawing is equipped with yardage knock-off clocks, and the yardage per can is synchronized as nearly as possible with a predetermined number of doffs at the roving frame. Because we have these clocks, it is to our advantage to creel at the doff. There is a small yardage left in each can, but this is turned and run back through finished drawing. We have about 4 to 5% returned and believe this is much less than would be the case if we creeled at random.

Mill Q: We creel roving frames when the creel runs out regardless of the doff except on critical styles using fine yarns. We believe the only advantage in creeling on the doff would be to keep the splices on the empty bobbin and keep them from going into the work. Disadvantage would be the loss of production by creeling frame while it is stopped. Believe that with careful creeling and good splicing there is no reason why the frame could not be creeled while running.

(Continued on page 194)

Mill T -- Results of Conversion to 14-in. Coilers

	12-in. can	14-in. can
Lb. of sliver per can	13	17¼
Running time of can-minutes:		
At 8.63 lb. per hr. production (AA stock)	80	105
At 10.00 lb. per hr. production (AS stock)	80	105
At 13.45 lb. per hr. production (A stock)	60	80
Tenders required per shift:		
AA stock	3.22	2.68
AS stock	0.60	0.98
A stock	3.38	2.70
Total tenders per shift	7.20	5.86

COST OF CONVERSION to 19-in. coilers on cards will be amortized in 2-yr., based on a 144-hr. week, in this mill.

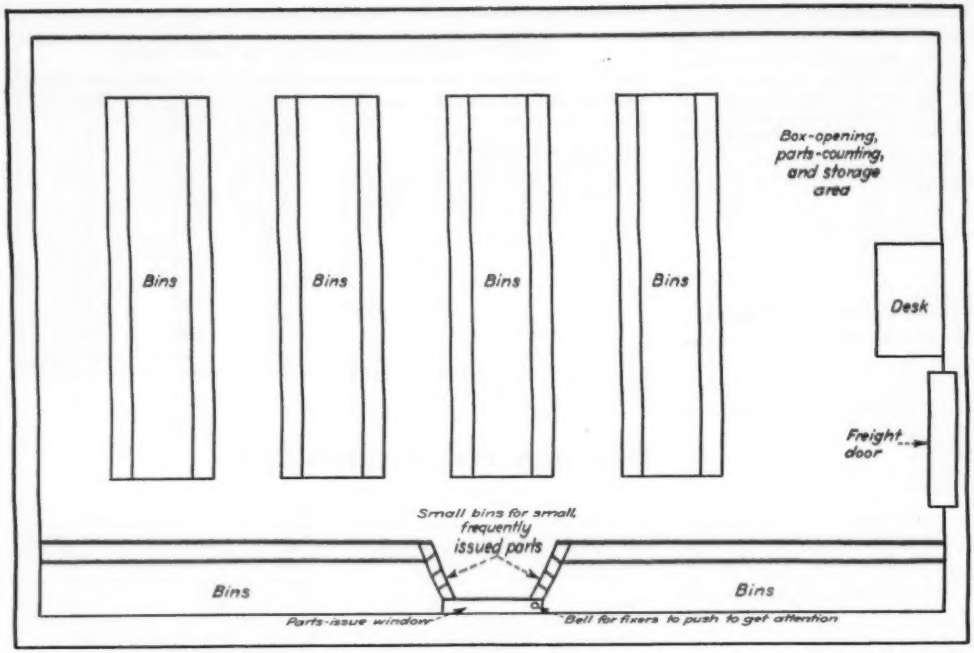
Changing to 14-in. Coilers on Cards

Question: In changing to 14-in. coilers on cards, how much did you increase the sliver in the can. State whether you use a weighted tongue-and-groove calendar roll.

Answers:

Mill Q: We increased the sliver in the can about an average of 30%. We do not use the weighted tongue-and-groove calendar roll.

Mill T: We do not use a weighted tongue-and-groove calendar roll, but we do use a calender roll with a Kempton compression spring. Amount of increase of sliver in the can and savings are given in the accompanying table.



THE IDEAL SUPPLY ROOM has bins perpendicular to the parts-issue window to save steps, and has a large number of small bins near the parts-issue window for the most frequently issued parts.

Get That Parts SUPPLY ROOM In Shape Now!

► *Spare-parts deliveries aren't going to get any faster, and neither you nor Uncle Sam can afford to have machines down for lack of parts. Here's how to organize and run your parts-supply room to find what maximum and minimum stock levels should be, and some tips on what parts to order and how to order them.*

By WILLIAM A. NEWELL
Managing Editor, TEXTILE WORLD

THE FACT THAT nine out of ten spare-parts orders received by machinery manufacturers are marked "Rush" testifies that parts-supply rooms in textile mills are not run as efficiently as they might be. As parts deliveries will probably become slower in the mobilization period, mills can prevent having machines down waiting for parts and can avoid the cost of air shipments by putting their supply room in order now. Here's how to do it.

So you can find parts when you need them . . .

1. Number your bins

Every bin should be numbered, and the proper bin number entered on the stock-record card for the parts the bin contains. Almost any numbering system can be used as long as it's easily understandable. Bins in one bin section can be numbered 100, 101, 102, etc., the next bin section 200, 201, 202, etc. Or bin sections can be lettered, tiers of bins numbered, and individual bins in each tier, from one end of the bin to the other, numbered 1, 2, 3, etc. Thus bin B-307 would be in bin section B, 3rd tier of bins from the bottom, 7th bin in from the end.

2. Set up a card-file stock-record system

The size and form of the cards are less important than having a card stock-record system of some sort. One simple card is shown on page 111. Cards should provide space for at least the following items:

Proper name of item stocked
Part number
Bin number (where item is stored)
Maximum stock level (optional)
Minimum stock level
Standard order (how many are re-ordered at the proper time.)
Date in-out
Balance
Maker (optional; use if you have a wide variety of machines)

By setting up such a card-file system and using it, you'll know what parts you have, where they are, how many your have, frequency of issue, when to reorder, and how many to order. Another column is added by some mills which indicates the fixer or other person to whom the parts were issued. Such information can be useful in rating efficiency of fixers by the number of parts they use.

Cards should be arranged in the file by make of machine, then alphabetically by key letter (if any, as in L12345), then consecutively by number from low to high numbers. By arranging alphabetically by numbers, confusion is prevented when two parts have the same number, but each number preceded by a different letter.

3. Assign parts to bins by make and motion or material

It will help in locating parts, especially when the number on the part to be replaced is worn off, if related parts are segregated from others. Put all the parts of one make machine together; then within this section of bins, put all parts of one motion together. When there are RH and LH parts, keep them separated by several bins, but still within the group of bins for the make and motion.

In general, it is best to keep nuts and bolts by themselves. These items should be kept stored by diameters in vertical rows. Put the shortest ones at the top and longer ones in order of increasing length to the bottom.

Non-numbered parts not made by machinery manufacturers, as check straps, lug straps, pickers, and other leather, rubber, or wooden parts should be kept together according to the material of which they're made. If a fixer turns in a broken check strap, the proper replacement can easily be found among the leather goods.

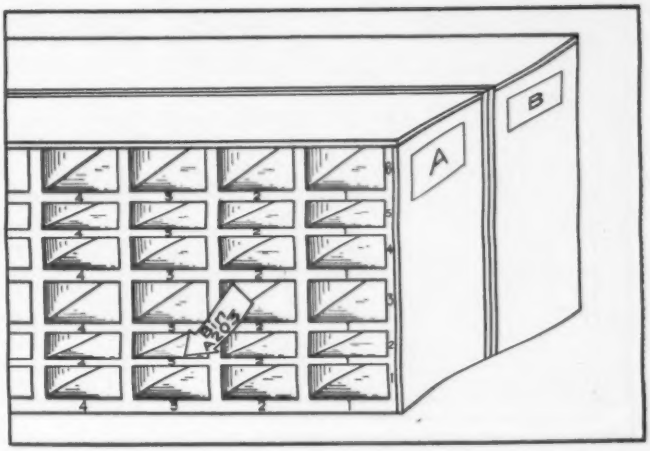
These supplies, as well as nuts and bolts, are the ones most frequently issued, and are preferably kept near the window through which supplies are issued.

4. Use the stock-record system like this

If an improved part with a new number is brought out, make out a new card for it, but leave the card for the old part in the file. On this card for the old part, mark in pencil "Do not use this card, see No. ....." The number referred to would be for the new part. In this way, old parts brought in for replacement will automatically be replaced with the improved part, and all future orders for the part will be for the improved part.

When the system is installed and bins are properly organized, this is the way the stock-record system works. A part is brought to the supply room for replacement. The stock man looks at the part number—L 14705. He goes to the file, consults the cards under "L," finds L 14705, and notes that it is in Bin C 521. He goes to bin-section C, 5th row up and 21st bin over, takes the desired part, checks it against the part brought for replacement, and, if the same, gives the new one to the fixer. Then the stock man returns to the card, writes the date, the quantity given out in the "Out" column, his initials in the "In" column, and the new balance. If the mill wants to keep a record of parts issued to individual fixers, the fixer's initials number can be entered in place of the supply man's initials, or a separate column can be provided for this information.

When a new shipment of parts is received, the date is written as before, the number received in the "In" column, the initials in the "Out" column, and the new balance in the "Balance" column. When a part is given out, and the proper deductions

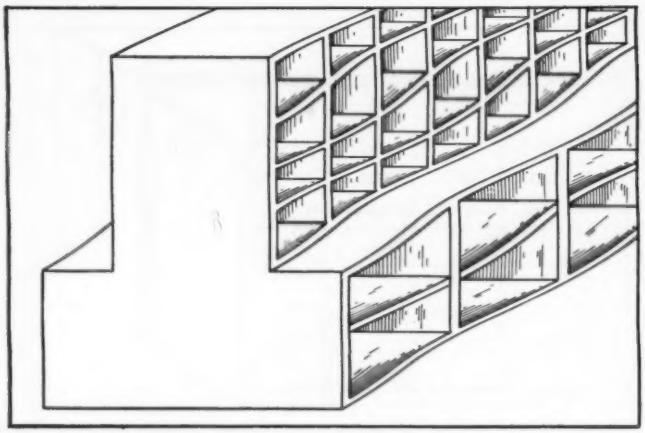


ONE SYSTEM OF NUMBERING BINS is to letter each bin section, number each tier of bins, and number each bin from one end to the other. Bin A203 is in Section A, second tier up, third bin across.

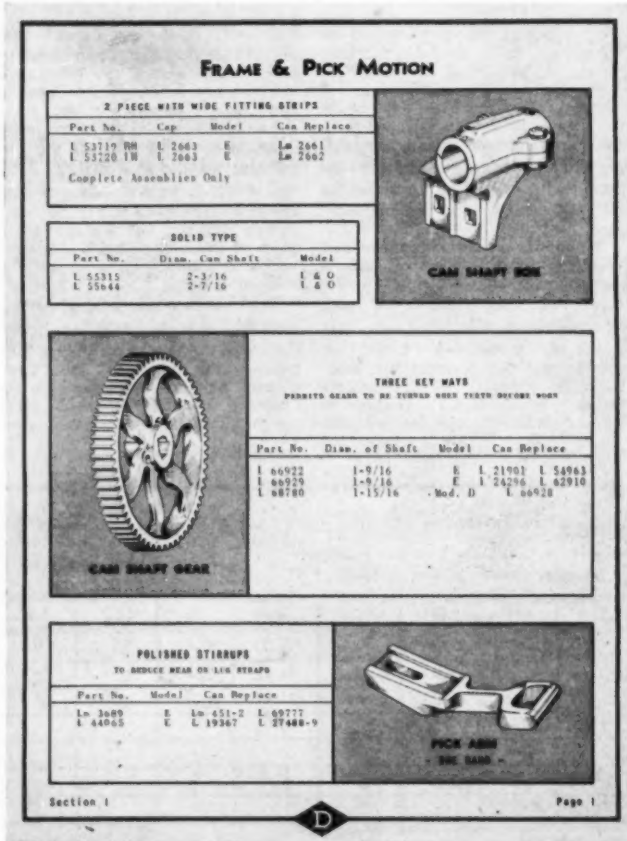
Article Pick Cam — No. L 71403 — Bin A 310
Price — — Maker —
Maximum 15 — Minimum 5 — S.O. 10

Date	In	Out	Bal.	Date	In	Out	Bal.
6-11	10	Sp	10	7-21	Sp	3	11
6-15	Sp	1	9	7-30	aw	1	10
6-31	Sp	1	7	8-4	aw	2	8
7-9	aw	1	6				
7-11	Sp	1	5				
7-12	10	aw	15				
7-15	aw	1	14				

THIS CARD is typical of many types that can be used. Most important thing in design of cards is to provide space for all necessary information for finding parts quickly and ordering parts easily.



BEST BIN DESIGN has large, deep bins below for large parts, smaller bins above, and a shelf between for holding parts temporarily or for making notations on.


FRAME & PICK MOTION
2 PIECE WITH WIDE FITTING STRIPS
Part No. Cap Model Can Replace
L 53719 RH L 2663 E La 2661
L 53720 LH L 2663 U La 2662
Complete Assemblies Only
CAM SHAFT BOX
SOLID TYPE
Part No. Diam. Cam Shaft Model
L 55315 2-3/16 L & O
L 55644 2-7/16 L & O
CAM SHAFT GEAR
THREE KEY WAYS
Part No. Diam. of Shaft Model Can Replace
L 66922 1-9/16 E L 21901 L 54963
L 66929 1-9/16 E L 24296 L 62910
L 68780 1-15/16 Mod. D L 66928
POLISHED STIRRUPS
TO REDUCE WEAR ON LUG STRAPS
Part No. Model Can Replace
La 3089 E La 451-2 L 69777
L 44065 U L 19367 L 27448-9
PICK ARM
Section 1
Page 1
D

DRAPER CORP.'s new parts catalog makes it easy to order the latest improved part. All orders should be for the latest part and should give full part name and number.

are made, the new balance should be compared with the minimum at the top of the card. If the balance has reached the minimum, a yellow signal tag is attached, as a warning that this part needs to be reordered on the next normal date of ordering.

If, through someone's carelessness, the balance has been allowed to fall below the minimum, a red signal tag is attached to denote that an immediate re-order may be necessary. In either event, when the part is reordered, the yellow or red tag is replaced with a green signal tag which remains on the card until the order comes in, is counted, placed in the bin, and the new balance entered on the card by the stock man.

If a fixer brings a part for replacement on which the number is worn or illegible, or which bears no number, such as a stud, the stock man should get the machine catalog and ask the fixer to point out the part in the picture accompanying the parts list of each motion. When the part is located on the picture, its name and number can be found in the parts list, and, with the number as a basis, the part found as before. If the part number cannot be found, the stock man can go to the section of bins housing all parts of that motion, and by searching through a comparatively small number of bins, find the desired part.

Some mills require fixers to obtain a slip from an overseer or assistant overseer for replacement of a worn but not broken part. The object of such a system is to hold down parts costs. Some worn parts can also be reclaimed. Such a system works successfully in some mills, but in others fixers will purposely break parts to save looking for the man designated to sign the "chit." In such mills, use of the system will defeat its original purpose.

So you have parts on hand when you need them . . .

1. Use these formulas to establish stock levels, quantities to order

Once your stock-record system is working, it's easy to tell when you should re-order parts and how many to order. Key figures the cards will give you are approximate number of parts issued each day, and the number of days it takes for an order to be fitted. This latter factor, however, may vary widely when raw materials are in short supply; so watch length of deliveries carefully.

These formulas will help prevent

(Continued on page 206)

A BELT CONVEYOR at Crystal Springs Bleachery delivers bales and rolls of cloth from the receiving storage area to the second floor, where the hydraulic clamp-equipped truck takes over. Manual handling has been eliminated.

MATERIAL IS MOVED from the production storage area at Crystal Springs Bleachery to the continuous stitchers by the truck. The truck handles two or three rolls or bales at a time, depending on their weight. Four or five men used to handle the bales manually.

BALES ARE STACKED close together with the fork-lift truck at Green River Mills. The available storage space has been increased by 10% by closer stacking. The truck handles about 200 bales of cotton in an 8-hr. shift.

YARN CARTONS and bales of waste are loaded on highway trucks by the fork-lift truck at Green River Mills. The truck has reduced handling time, and it has eliminated lost time caused by handling accidents.

Single Fork-Lift Truck Cuts HANDLING COSTS

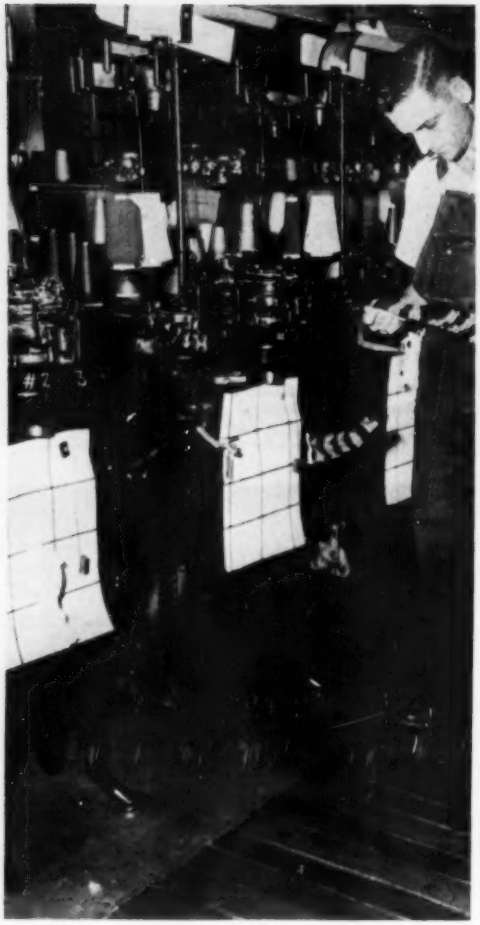
A single unit of mechanized equipment will often cut handling costs tremendously. For example—

► Crystal Springs Bleachery, Inc., Chickamauga, Ga., has cut handling costs 65% in the production storage department with one lift truck that has a clamp attachment.

► Green River Mills, Inc., Tuxedo, N. C., has cut bale-handling costs 50% with one 1,000-lb. fork-lift truck. Closer stacking of bales has increased available storage space by 10%.

IF YOU THINK that mechanized materials handling will not pay off in your small plant, take a look at these two installations where a single fork-lift truck is paying off handsomely. Crystal Springs Bleachery, Inc., Chickamauga, Ga., has cut handling costs 65% in the production storage

(Continued at bottom of next page)



SQUARES OF COMPOSITION TILE were installed on knitting machines to replace metal pipes and containers. The tile can be easily cleaned with a damp cloth.

STORAGE RACKS were constructed along the row of knitting machines. Firsts are placed on one side and menders on the other. Knitters have a constant check on quality with this arrangement. Production flow is also made easier and speedier.

GOOD Improves

▶ Emphasis on cleanliness, use of metal plates under machines, tile on machine fronts, and other steps have improved quality and efficiency at Maryon Hosiery Mill.

By E. DALTON WHITE, *McGraw-Hill Atlanta Bureau*

Single Fork-Lift Truck *(Continued from preceding page)*

department with a single fork-lift truck equipped with hydraulically operated clamp arms. This 1,500-lb. Baker electric industrial truck is doing work formerly done by four to five men.

Green River Mills, Inc., Tuxedo, N. C., has cut handling costs 50%, increased available storage space, and eliminated handling accidents. The Baker 1,000-lb. battery-powered fork-lift truck does twice as much work in the same period of time as used to be done with the manually operated bale stacker formerly employed for this work.

Here's How Crystal Springs Bleachery Uses Its Truck

A conveyor brings the bales and rolls of unbleached cloth from the unloading area to the second floor, where the storage and initial processing departments are located. As the material comes off the conveyor, the fork truck removes it and delivers it to a nearby area for tagging.

Following the tagging operation, the bales and rolls are removed to storage, where they are stacked three high. The bales and rolls are handled two or three at a time, depending on their weight.

Manual handling of the material has been completely eliminated. Formerly, four to five men were needed to move and store the 200,000 lb. of material handled daily in this department.

At the moment, the entire quantity is moved in about 200 trips.

The truck also is used to transfer the material from storage to produc-

***STORAGE RACKS** were constructed to store over-runs, which are labeled and then stored according to size, construction, and style. Refilling orders for a wide assortment is thus simpler. Heavy curtains in front of racks protect the goods and add much to appearance.*

HOUSEKEEPING
Knit-Goods Quality

INCREASED EFFICIENCY, along with fewer damaged and soiled goods, has been effected by Maryon Hosiery Mill, Inc., Carrollton, Ga., as a result of a few innovations in good housekeeping.

President T. F. Hirsch, an efficiency engineer by profession and a textile-engineering graduate of Stuttgart Textile School in Germany, believes that good housekeeping is the first requisite in the maintenance of high-quality products. His philosophy is that adequate facilities and clean surroundings enable employees to do a better job.

"With a good housekeeping program in effect," Mr. Hirsch says, "it becomes second nature for employees to become cleanliness-minded and to keep things in order."

The first step in the housekeeping program at the Maryon mill was to install bright-surfaced sheet metal under all knitting machines to improve appearance. These sheets also lessened the cleaning task. Knitters are responsible for keeping their area free from any lint, yarn waste, and oil which may drip from the machine.

With such a system there has been a saving in oil—that portion which had been wasted by over-lubrication. With just the proper amount of lubrication, and prevention of excessive dripping on the metal floor covering, there have been fewer knit goods damaged by oil spots.

The second step was removal from under each machine of the metal pipes and pans used as containers for hose as they are knitted. It was found that lint and oil collected in the containers and that some goods were soiled. These pipes and pans were replaced by a section of composition tile used as an apron.

Experience has shown that a knitter can attend his machine, make inspection, and remove the hose before any machine can knit sufficient goods to reach the floor.

Another step in the program was the construction of shelves down each row of knitting machines for storage of knitted goods. The knitter inspects the hose and places it in the proper bin according to size and construction. First-quality hose is placed on the right, and hose requiring mending is placed on the left side. This inspection procedure has increased production flow and acts as a quality-control check in knitting operations.

As a means of quickly refilling orders in small lots for a variety of styles and sizes, storage racks were constructed with heavy unbleached curtains hung to protect the stock. Each bin is marked as to size, construction, and style. All over-runs on orders are labeled and then placed in proper bins. It requires but a short time to assemble stock on re-orders when this system of storage is used.

The curtains prevent accumulation of lint and dust on the stock and present a better appearance than open shelves.

Employees like the good housekeeping procedures which have been instituted. The tendency and practice is to keep all the working areas clean and free from lint and waste accumulation.

In short, according to Mr. Hirsch, good housekeeping can and does pay for itself very soon in a better-quality product and in decreased production costs.

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tion. Here again, depending on their weight, two or three bales or rolls are handled at a time. First, they are taken to the stitching department, where three continuous-type stitchers sew the cloth into 6,000-lb. lengths. The cloth is then ready for further processing.

Use of the truck has resulted in a marked increase in handling safety and a considerable savings in storage space since all material is now tiered three bales high. The type truck used here operates with maximum safety in the presence of highly flammable products stored in the area.

Here's How Green River Mills Uses Its Truck

The fork-lift truck was bought for the specific purpose of reducing manual labor in storing cotton bales. It has accomplished this purpose since cotton handling costs have been reduced 50%. In addition, available storage space has been increased 10%, and lost time caused by handling accidents has been eliminated.

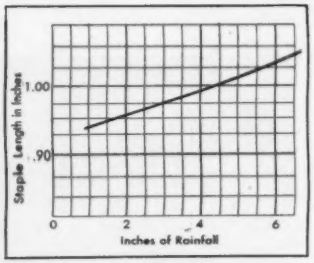
The truck handles and stacks about 200 bales of domestic and Egyptian cotton in an 8-hr. period. The domestic bales range in weight from 400 to 600 lb. and the Egyptian bales range from 500 to 700 lb.

In addition to handling the raw cotton, the truck also loads highway trucks with the yarn cartons. Green River Mills manufactures natural, mercerized, and bleached yarns for weaving, knitting, and thread uses. These cartons weigh from 250 to 400 lb. each.

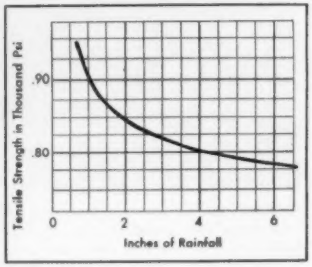
The truck also loads for shipment all bales of waste. These bales weigh from 500 to 1,000 lb. each.

Trucks in both plants were made by Baker Industrial Truck Div., Baker-Raulang Co., Cleveland, Ohio.

IN SELECTING COTTON for your mill, it pays to look into properties other than grade and staple length, and to check into rainfall conditions.



STAPLE LENGTH of Rowden cotton, crops of 1947-48, 1948-49, and 1949-50, grown at selected locations, increased with amount of rainfall.



TENSILE STRENGTH drops with rainfall, as indicated on this chart of Rowden cottons grown between 1947 and 1950 in selected locations.

To Get the Most From COTTON-FIBER Properties . . .

- • • *Consider more than grade and staple length, although these are important*
- • • *Consider savings that may result from careful check on fiber strength, fineness, maturity—shorter cotton may make stronger yarn*
- • • *Consider the amount and time of rainfall and its influence on fiber properties*
- • • *Consider over-all weather conditions at the time the crop was growing*

GRADE AND STAPLE LENGTH form the main basis for establishing the price of cotton between the buyer and seller. But consideration of other important properties of particular cotton specimens can in many cases lead to a satisfactory yarn at a reduced cost.

Extracted from a preliminary report of cotton grown on the Blacklands of Texas, released recently by The Cotton Research Committee of Texas.

Shorter Cotton May Be Stronger

Studies made on several types of Texas cotton reveal that a change of $\frac{1}{32}$ in. in length of staple usually results in a change of 2.6 lb. in the skein-breaking strength of 22s yarn. A change in tensile strength of 1,000 psi. of fiber usually shows a change of 0.86 lb. in the strength of 22s yarn. Applying these findings to a specific case would mean that a $\frac{31}{32}$ in. cotton with a tensile strength 5,000 lb. greater than that of a full 1-in. staple cotton could make a yarn of greater breaking strength than the longer cotton.

The loss of 2.6 lb. in yarn strength due to the $\frac{1}{32}$ in. less fiber length is more than offset by the 4.3 lb. greater yarn strength from increased tensile strength of the fibers. The difference in price between the two cottons would offer an opportunity to save money on the cotton with no loss of yarn quality. With Middling white 1-in. cotton quoted at a premium of $4.00 per bale and $\frac{31}{32}$-in. cotton at a

premium of $1.75 per bale, there is a possible saving of $2.25 per bale.

These savings have been extended to the use of 1⅛-in. cotton with a high fiber tensile strength as a suitable substitute for 1-in. cotton with lower fiber strength. These savings, however, cannot be made unless full account is taken of other fiber-property values. Other economies may also be obtained by using cotton of high tensile strength. With mill equipment in good condition, ends down may be reduced and better processing performance and a high-quality finished product may result.

Under the growing conditions of the Blacklands, such varieties as Deltapine, Stoneville, and Acala will usually make cotton with a staple length of 1 to 1⅛ in. While this is slightly shorter than the same varieties of cotton grown where the rainfall is greater, nature has compensated by making Texas cotton somewhat stronger. A given variety of cotton grown in the Blacklands usually produces lint about 5,000 lb. stronger than when grown in states east of Texas. Consequently 1⅛-in. Blacklands cotton, when properly selected for strength, can be substituted for 1⅛-in. cotton grown in areas with greater rainfall. The savings in raw material costs at present prices would be about $3.00 per bale.

How Rainfall Affects Fiber Properties

Information regarding rainfall can be used in evaluating a cotton crop.

Moisture in excess of plant requirements at and for some 20 days after blooming usually results in lint that is slightly longer, somewhat weaker, and a bit finer than is had under normal conditions of growth.

A deficiency of moisture at and for some 20 days after blooming time usually results in a fiber that is slightly shorter, somewhat stronger, and a bit coarser than is had under normal conditions of growth.

These generalizations are based on information furnished by the U. S. Dept. of Agriculture and reports showing the fiber properties of cotton grown in selected improvement areas. Fiber measurements made on cotton from the Blacklands of Texas were also used in the analysis on effect of rainfall on fiber properties.

Weather data are said to have value for those who are willing to study the growth environment of the crop during the period up to and for 20 days after blooming time in those areas in which they buy cotton. Such information will help to narrow the search for cotton with specific fiber properties. Usually the strongest cotton from a given variety is found where conditions of growth produce a fiber of less than normal fineness but of average length for the variety in question.

These statements in reference to maturity of cotton are not meant to include interference from insect damage, exceedingly hot weather, freezing weather, or frost. Temperatures above normal for long periods of time may cause premature opening of the cotton.

Tests relating rainfall to strength have been made by units sponsored by the Cotton Research Committee of Texas. Similar tests were made by agencies of the U. S. Dept. of Agriculture. These tests show that for a given variety of cotton grown where there is usually a mild deficiency of rainfall during the blooming season and for about 20 days after blooming, a strong-fibered cotton is generally produced. These conditions are said to exist in the Blacklands of Texas. For that reason, cotton produced there can, under normal conditions, be depended upon for strong staple. Analysis of the reports of the U. S. Dept. of Agriculture with respect to fiber strength at various locations in the cotton belt will pay dividends.

You May Be Able To Use Less Twist

A major source of strength of cotton yarn lies in twisting the parallelized fibers together. The cost of inserting twist is in proportion to the number of turns required to get the optimum yarn strength. It was found that in making 11s yarn, maximum strength was, for all practical purposes, obtained within the range of 14.2 to 15.8 tpi. using medium-staple cotton of the characteristics found in both sections of the Texas Blacklands. Maximum strengths for other yarn numbers using this type of cotton were as follows: 14s and 18s yarn required 17.8 tpi.; 22s yarn, 22.1 tpi.; 36s yarn, 25.4 tpi., and the strongest 40s yarn was made with 30.3 tpi.

New Southern Editor for TW

NEW SOUTHERN EDITOR for TEXTILE WORLD, to make his headquarters in Atlanta, Ga., is James H. Kennedy. He will take over the duties of Prentice M. Thomas, former Associate Editor located in Columbus, Ga., who is now Editor-in-Chief of TEXTILE WORLD.

Jim has a well-rounded textile background that suits his new position well. He is a graduate of Lowell Textile Institute and received his master's degree in textile technology at Massachusetts Institute of Technology. He also attended Philadelphia Textile Institute; Georgia School of Technology; School of Textiles, North Carolina State College; the University of Alabama; and the University of New Hampshire. His mill experience has been with Chicopee Mfg. Corp., Manchester, N. H.

Jim is no stranger to TEXTILE WORLD pages. He has been a Contributing Editor for several years and has written feature articles as well as other editorial assignments. He wrote the first full-length documentary article on the use of homogenizers in warp sizing that appeared in any textile magazine [TW, Nov. '49, p. 127]. He started in textile journalism by editing *The Text*, student newspaper at Lowell Textile Institute, and for the last three years he has been Editor of the L.T.I. Alumni Bulletin.

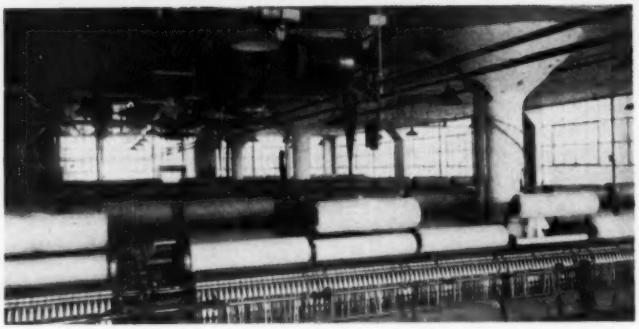
During the war, Jim spent three and one-half years in the Infantry with service in the Philippines and Japan. He is now a Captain in the reserves and is assigned to the Quartermaster Corps research and development program.

Jim is a member of Phi Psi textile fraternity, American Association of Textile Chemists and Colorists, and Society of Sigma Xi.

JIM KENNEDY, new Southern Editor for TEXTILE WORLD, will be located in Atlanta.

CARD-ROOM air-moisture content is kept constant by intermittent overhead nozzles whose action is hygroscopically controlled.

HUMIDIFICATION IS IMPORTANT AT WARREN WOOLEN CO.



SPINNING MULES run better and with fewer ends down because of a constant relative humidity in the room.

RELATIVE HUMIDITY Important

Advantages of controlled humidification include

- *Decreased amounts of emulsions necessary*
- *Elimination of static electricity*
- *Diminished amount of processing fly*
- *Increased machine efficiency*
- *Better counts and weight control*

By H. R. RICH and N. B. CHASE, *American Moistening Co.*

Principles of Hygrometry—A hygroscopic material, by definition, has the ability to absorb and retain moisture from the atmosphere. The percentage of moisture absorbed by wool, for example, is governed directly by the relative humidity and the temperature of the surrounding medium. If the relative humidity of the atmosphere is increased, more moisture will be absorbed; if the relative humidity is decreased, moisture will be surrendered.

Because total weight is the sum of bone-dry wool plus moisture, there can be wide fluctuations in weight if the moisture content of the air is permitted to vary, particularly if it becomes abnormally low. Changes in moisture content are reflected in the physical characteristics of the fiber, such as strength, elasticity, resistance to abrasion, pliability, and brittleness.

A wool fiber containing 4 or 5% moisture is quite different in character from a fiber containing 12 or 15%. Dry fibers lack elasticity and abrade easily. Extreme brittleness results in excessive broken ends and unnecessary fly waste.

SINCE WOOL IS THE MOST hygroscopic of the natural fibers, proper relative humidity in the atmosphere surrounding its processing is of vital importance. It is necessary to provide optimum manufacturing conditions, whether the end product be inexpensive or of highest quality.

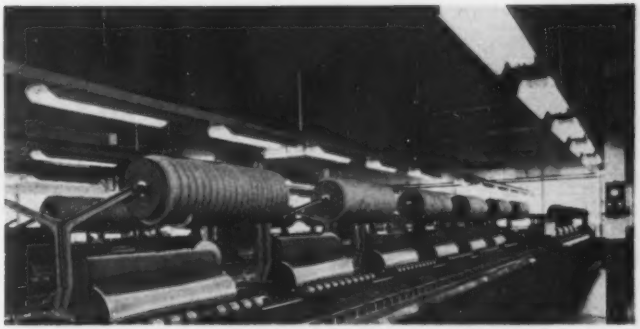
In wool, the regain is 15.7% at 65% r.h. with a temperature of 85° F.

Let us examine the effect of humidification on various wool-processing procedures.

Picking. This process opens up the stock and blends the various components of the mix. It is customary to apply oil for lubrication in the form of an emulsion as the material starts through the picker. The liquid part of this emulsion acts as a carrier to distribute the oil uniformly and also provides the basic regain. From this point on, the material should never leave a controlled humidified atmosphere.

Carding. The most desirable conditions for carding range from 65%

RING SPINNING FRAMES take roving off jack spools better when there is the proper amount of moisture in the roving.



BETTER-RUNNING WORK IS OBTAINED AT BROAD BROOK CO.

WEAVE-ROOM air-moisture content is kept constant at any desired relative humidity that gives the best-running work.

in Processing of Wool Fibers

r.h. for fine wools to 70% r.h. for coarse wools, such as those going into carpets.

Control of the surrender of moisture eliminates an important variable, namely, the moisture element in total weight. Through humidification, the entire emphasis in carding can be confined to the mechanical functions of the machine. The weigh box, which is an integral part of the feed, operates mechanically when a sufficient weight of wool has accumulated. If other parts of the card are in proper adjustment, the amount of material released by the weigh box will govern the weight of the roving at the delivery end.

Cylinders and doffers of woolen cards operate at high speeds and accentuate the friction of fiber to fiber, fiber to card clothing, and fiber to atmosphere—all of which frictions are conducive to the generation of static electricity.

The evils of static are well known. Static produces a "wildness" that interferes with the orderly straightening, blending, and parallelization of fibers. Unnecessary loss of raw material in the form of excessive fly waste can also be a result of static. Dry air, a poor conductor of electricity, permits generated static to reach a potential sufficiently high to exert a magnetic effect on loose fibers. Humidities above 45% provide the conductivity in air necessary to dissipate such charges as fast as they tend to form at the card.

Proper control of wool at the rub aprons is only possible when each and every fiber is, through proper humidity, at its physical peak and is capable of its best performance.

Spinning. Spinning, whether by mules or by ring frames, requires a slightly dryer condition than carding. From 50 to 55% r.h. permits sufficient surrender of moisture to cause the fibers to contract slightly, curl, and thus cling more firmly, fiber to fiber. The result is an evenly drafted, comparatively smooth yarn.

Dressing and Winding. Assumed the wool has been carded and spun under controlled humidity, it is of the utmost importance that the yarn retain its moisture in dressing and winding. It is much more difficult to reintroduce moisture than to retain it. A relative humidity of from 50 to 55% will preserve maximum strength and resiliency in the processes just prior to weaving.

Weaving. Elasticity and strength are essential in weaving. A uniform humidity somewhere in the range of from 60 to 70%, depending on the fabric construction, prevents undue contraction or stretching of the warp and produces cloth weights that match specifications. With controlled humidity, hygroscopic parts of the loom, such as shuttles and shuttle boxes, do not require the adjustments common to the unhumidified weave room.

This last-mentioned weave-room advantage is a decided benefit in those plants where weave-room efficiency must be kept high.

"THE NUMBER-ONE FACTOR is correct winding," say Gordon Hacker, right, Gaston County Dyeing Machine Co., and Lionel Lancaster, left, head dyer, The Stead & Miller Co.

Filament Rayon Now DYED in PACKAGES

Here's How—

- *Wind soft dye package with uniform pressure throughout*
- *Use cup separators on spindle carrier to hold package ends in place*
- *Select dyes for maximum affinity to rayon without addition of salt*
- *Add salt slowly after 20 to 30 min. of dyeing*

By W. A. THOMASON, JR., *Southern Editor, TEXTILE WORLD*

THE TREND IN DYEING continuous-filament rayon is toward package dyeing. Only recently have dyers been able to do it successfully. The first Southern mill to do it commercially was Stead & Miller Co. of Concord, N. C.

Central Yarn and Dyeing Co., Gastonia, N. C. has just started package-dyeing both filament rayon and nylon on a commercial scale.

Both companies use Foster model-75A winders and Gaston County Dyeing Machine Co. kiers. Stead & Miller uses Gaston County vacuum-type extractors and blower-type dryers, while Central uses a Smith & Drum individual-package centrifugal extractor and homemade oven-type dryers with Foxboro controls.

Many plants have tried to package-dye continuous-filament rayon, but in most cases they were not successful, for a number of reasons. The packages have to be wound properly. Dye selection is of utmost importance. Dyeing technique also ranks a top spot. Misdirection in any one of these requisites results in unsuccessful dyeing.

Foster Machine Co. engineers worked out the winding details. Gaston County Machine Co. engineers developed special cup separators and worked on the dyeing technique. Du Pont research men experimented with dyes and dyeing technique.

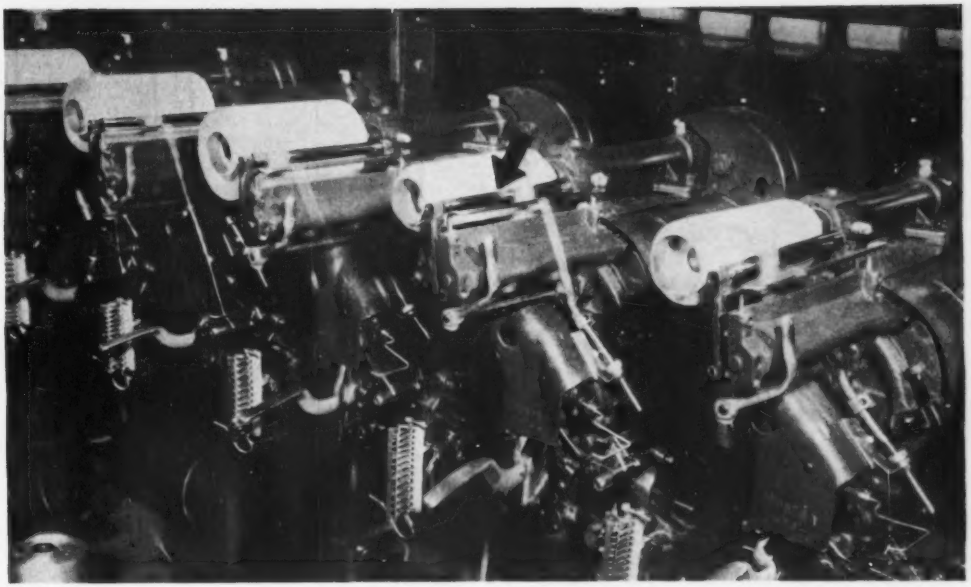
As a result of the work it has done on rayon, Central Yarn & Dyeing Co. is doing what we believe to be the first package dyeing of fine-denier (15 and 20) nylon. This yarn is being used in the hosiery trade.

The continuous-filament yarns dyed by Stead & Miller are used in the upholstery and drapery fabrics the firm makes. Central Yarn and Dyeing Co. commission-dyes the yarns for weavers and knitters.

Here's how to do the job—

1. Winding

A precision winder must be used. The Foster model-75A is used at



HERE'S THE SECRET of the winding. A pressure roll (arrow) and a goose-neck guide are used on these Foster 75 precision winders to give a uniform package of low density.

SAMPLE SKEINS are dyed first at Central Yarn and Dyeing Co. Further dye tests are made in the 6-lb.-sample unit at left. Bill Caldwell, lab technician, checks a skein with John Harvey, superintendent and dyer.

ARTHUR NANNEY removes a carrier of 70 one-lb. 300-den. rayon packages from a 26-in. Gaston County machine at Stead & Miller.

both of these plants. The adjustments and settings given here apply to that machine.

Delivery of yarn to the package must be close so that you won't build up excessive selvages. A goose-neck guide point over the pressure roll is used instead of a button for that reason.

The winding supply packages should be cones, because any variation in tension on the supply package will show up on the dye tube. The dye tubes used are 1¾ in. in diameter.

The winding pressure must be light, evenly distributed, and uniform from spindle to spindle. The pressure roll distributes the pressure evenly over the surface of the package. For 150-den. yarn, a back pressure of about 110 grams at the start of the package is used. For 300-den., about 120 grams is used. Much higher pressure can be used for nylon and probably Orlon because these fibers will not swell as much as rayon.

The pressure can be checked by the use of gram scales. Hook the scale to the guide, and read how many grams pull are necessary to move the guideway away from the empty tube.

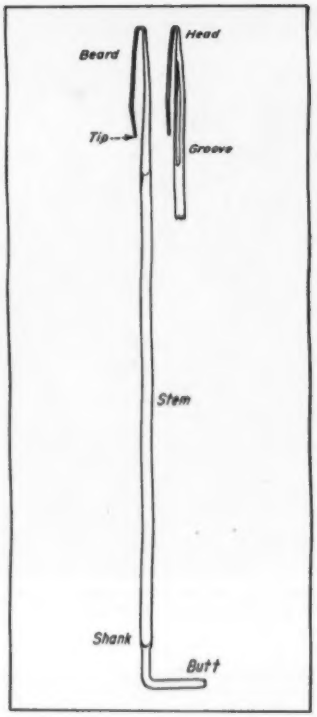
Another way to check the pressure is to hang a 6-oz. weight on the thread bar with the guideway at full-package position. This weight should bring the guideway into balance. If it is out of balance, adjust the pressure at the pressure spring. Then remove the 6-oz. weight from the guideway since it was used merely as a gauge.

The settings and adjustments must be the same on all spindles. The position of the lever, angle of the lever, and weights used should be checked. All spindle speeds should be 1,100 rpm. for filament rayon.

The package density should be

(Continued on page 298)

MEMO—
Now— more than ever before needle straightening skill is required for knitting quality and production
Your Knitters — may cut down on costly waste of yarn and needles by following these training tips
— Henri Le Feaux



How We Train Our Knitters To STRAIGHTEN NEEDLES

By **H. B. LE FEAUX**, *Consulting Editor, TEXTILE WORLD; Superintendent, Vanette Hosiery Mill*

SOMETIMES WE ARE ASKED why knitters make exceptionally high wages and what skill is required to warrant such pay?

A large part of the answer lies in the fact that a knitter must be exceptionally good at straightening needles, welt hooks, and narrowing points. Today, the 60-gauge machines make it very important that needles and points be kept in perfect alignment, since tolerances have been cut to practically nothing. The knitter's skill at needle and point straightening has therefore become more important than ever.

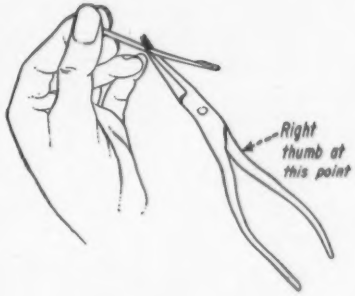
Machines must be checked often—or, better still, at regular intervals—to insure that the knitter is keeping them in condition. Knitters must be kept needle-conscious.

Some needle manufacturers are now shipping needles that have already been straightened. However, I believe it is impractical for a mill to receive shipped needles and expect the knitters to put them in the machines without further straightening. The needle manufacturer endeavors to keep needles as straight as possible during the manufacturing process, but a needle beard can get bent merely in shipment or as the knitter takes it out of the package. Therefore, a mill should stress to its knitters that they are responsible for straightening each needle regardless of what the manufacturer has done to keep it straight.

Most knitters have their own individual way of holding the needles and pliers during the straightening process. Some of these methods are good; some are bad. The bad ones, of course, will eventually show up in the knitters' work and be reflected in production and quality.

The methods illustrated and explained here can be useful to mills in training knitters and in correcting faulty practices of experienced knitters.

TO STRAIGHTEN THE STEM . . .

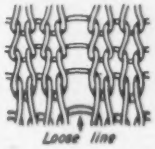


. . . Hold the needle with the left hand and the pliers with the right. Use the little finger of the left hand to open the plier jaws. Place the right thumb at the point where the plier handles come together so that the thumb can be used as a brake to keep the pliers from closing too tight.

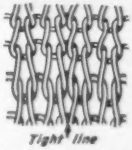
Now raise the needle so that you can sight along the whole length of it. If the stem has a bend in it, move the plier jaws along the stem to the bend. Rub the stem with the plier jaws, turning the jaws sideways to exert pressure.

Too much pressure will put a kink in the needle and make it unfit for use.

BENT NEEDLES and FABRIC DEFECTS



LOOSE LINES, shown by the long loops down the middle of the fabric, will be made by a needle if the stem curves away from the beard. A needle bent in this manner enters too far between the sinkers and allows too much yarn to be used in the loop.



TIGHT LINES, shown by the short loops down the middle of the fabric, will be made by a needle if the stem is bent toward the needle beard. A needle bent in this manner does not enter the sinkers deep enough. Not enough yarn is used in the loop.

TO SET THE BEARD . . .

. . . Hold the needle stem at about its middle, and grip the needle beard with the pliers. Move the beard until it is directly over the center of the groove in the needle stem.

The beard is by far the most important part of the needle. If the beard is slightly off-center of the groove, trouble will occur in knitting as long as the needle lasts or until the improper beard setting is corrected.

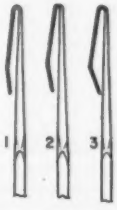
FINE POINTS OF SETTING

THE YARN OPENING between the beard and the groove must be exactly right for the yarn and fabric being knitted.

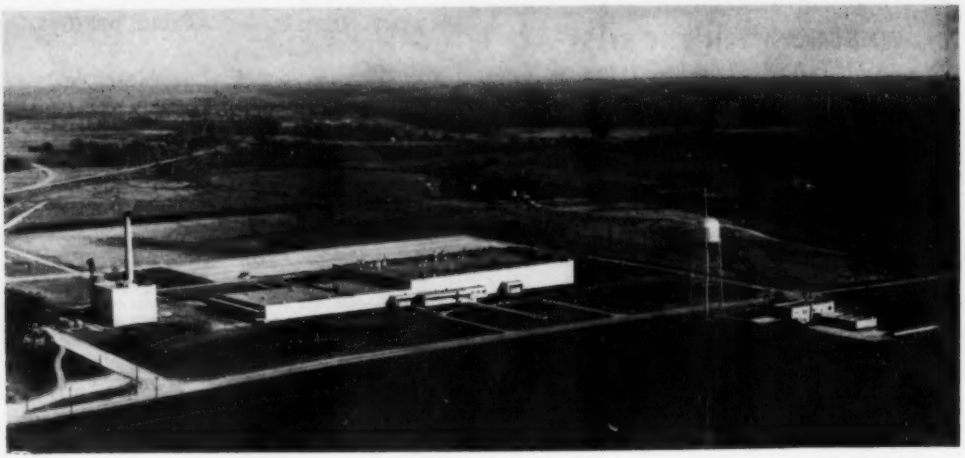
To set the beard opening, hold the needle at about the middle of the stem and grip the beard with the points of the pliers. Be careful not to change the setting (or bend) of the beard tip. Raise or lower the beard as needed.

INCORRECT OPENINGS. The beard of the needle to the left is closed too much to allow the stitch to press off properly. The opening at the right is so wide that the stitch will not be held for proper control.

One way to measure the beard opening is to use the narrow, flat part of a needle of the same gauge. Slide this needle along the stem of the needle being gauged. The flat part of the gauge needle should just clear the tip of the beard. For some types of work, of course, a wide beard-tip setting is needed.



THE SHAPE OF THE BEARD HOOK is a vital factor in the quality of the knitting done by the needle. As shown here, needle 2 is shaped perfectly, the hook of needle 1 is too straight, and needle 3 has too much hook. Needle 1 will not be pressed off properly and will cause loading of the fabric. Needle 3 will cause split stitches, a broken needle, and wear on the presser edge.



THE MAIN PLANT, center, is of steel-frame, concrete, and brick construction. On the right is the water-filter plant and on the left is the steam plant. The plant has the most modern equipment yet designed to dye and finish cotton and synthetic-fiber fabrics.

CAMERA TOUR:

New and Versatile DYEING AND FINISHING *Plant*

▶ ***Flexibility highlights operations at the new Wallace, S. C., plant of Delta Finishing Co. This modern plant can handle a wide range of fabrics made from cotton and blends. Good layout requires a minimum of materials handling, and excellent engineering gives top working conditions.***

By W. A. THOMASON, JR., *Southern Editor, TEXTILE WORLD*

THE NEW DYEING and finishing plant of Delta Finishing Co., a division of J. P. Stevens & Co., located at Wallace, S. C., is designed to handle many types of fabrics. Equipment is installed for mercerizing, open-width or rope dyeing, Sanforized shrinking, and various types of finishing.

The plant site was acquired through the cooperation of a group headed by Paul A. Wallace, prominent citizen and State senator. Mr. Wallace and his associates worked with officials of the Seaboard Railroad in the effort to bring the new industry to this area. The town of Wallace was formerly known as Kollock, and was renamed in Senator Wallace's honor. It is one mile east of Chetaw, S. C.

Daniel Construction Co., Greenville, S. C., served as general contractor; and J. E. Sirrine Co., also of Greenville, designed the plant. The plant was ready for occupancy only 238 calender days after the ground breaking, despite steel strikes and adverse weather conditions.

Water for the operations is pumped from the Pee Dee river, which is about a mile from the plant. The filter plant is capable of pumping 1,500,000 gal. of water per day.

The processing area of the plant is walled with glazed tile and has a concrete floor. A refreshment booth in the area is open all the time. The first-aid room has a graduate nurse on duty at all times.

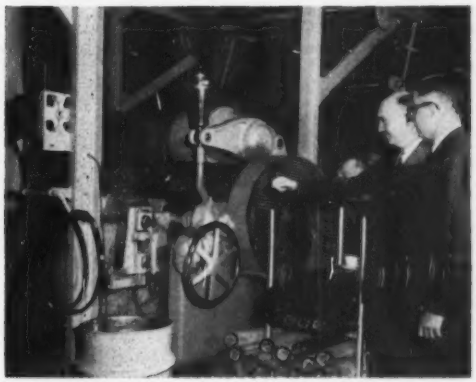
Local help has been used when possible. The personnel man, T. Belton Laney, is a native of the area and knows many of the people. He is usually able to find out something about prospective employees and pick the ones most likely to stay on the job. Most of the employees are local people and have been trained in the plant.

The pictures used in this camera tour were taken during the Open House held after the official opening. Over 3,000 visitors were present, mostly local people. The cooperation which the community has given officials of the plant has insured successful operating conditions for the unit. The plant in turn has provided good employment for about 300 local people.

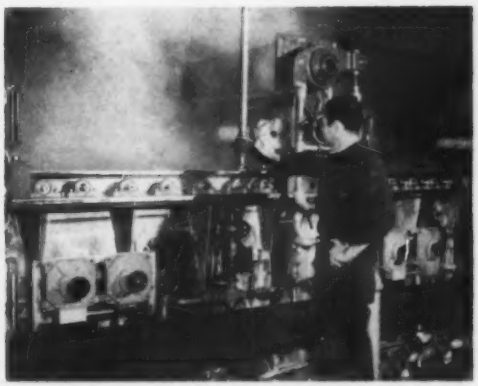
Now, let's take our camera tour through the plant.

A SINGLE WAREHOUSE area serves receiving and shipping. Here John Thompson, right, in charge of shipping and receiving, gives instructions to an employee, Edwin Griggs.

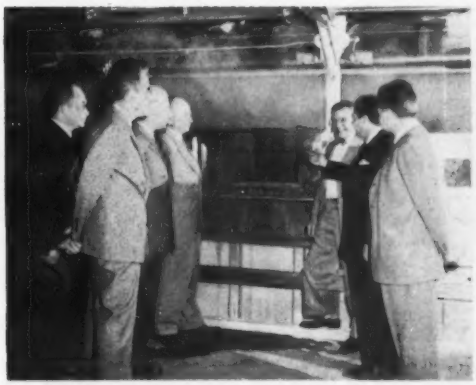
GRAY FABRIC is carried to the sewing room on flat-bed trucks. At the Open House, State patrolman Dempsey is shown as he watches his wife, Edna Mae, at work.



MOST FABRICS ARE SINGED and desized. John P. Baum, vice president, J. P. Stevens & Co., is shown discussing desizing with Robert T. Stevens, chairman of the board.



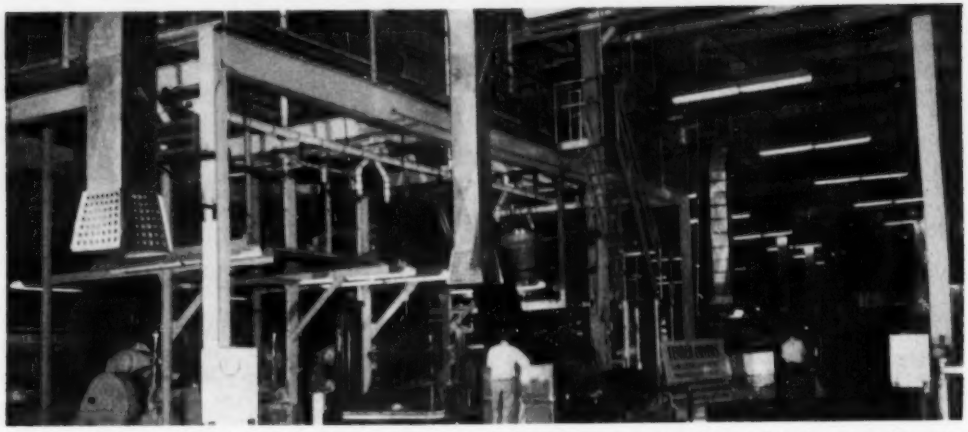
LOCAL PEOPLE ARE EMPLOYED when possible. Woodrow Brigman, continuous-dyeing-range operator pictured here, was trained on the job, as were most of the employees.



"DYEBECKS are used mostly for synthetic-fiber fabrics," says Supt. B. M. Keever, second from right, to a group of J. P.Stevens executives. Shown from left to right are John Bell, Ben Sharp, H. R. Turner, Hack Gray, George Harrison, Keever, and John Smyth.

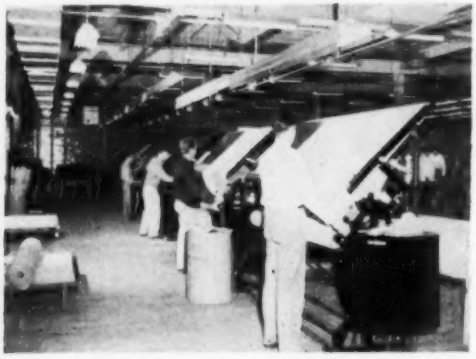
"WE SANFORIZE-SHRINK some of our fabrics made of blends and practically all cottons," Asst. Supt. Kelly Traynam, second from right tells M. T. Stevens Southern men. Left to right are shown John P. Baum, John Smyth, Donald C. Johnston, Mr. Traynam, and B. K. Sharp.

CAMERA TOUR: Delta Finishing Co.

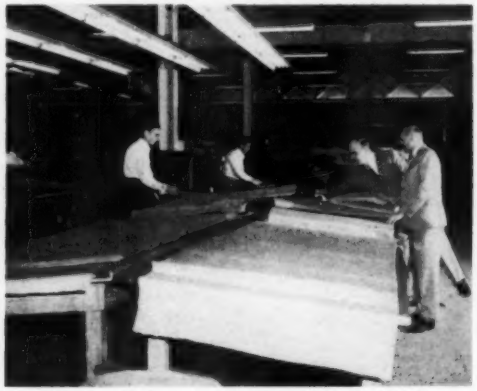


AIR VENTS are placed strategically throughout the processing area to give best coverage to operators. A vapor-absorption and -cooling system is used. All machines are hooded and/or enclosed and have individual exhaust ducts. The offices and the inspection and gray rooms have air conditioning.

THE LABORATORY does initial pilot work and all control work. Discussing a Fade-Ometer test are, left to right, Bill Bagley, chemist; Wrenn Godfred, lab assistant; and Supt. Keever.



INSPECTORS trained here were, starting at left, Gerald Chapman and Frank Stokes. Roscoe Butler, next, had some experience. At right is Thomas Robertson, assistant overseer of inspecting.



COTTON FABRICS inspected on tables are checked by Hack Gray and George Harrison. The inspector at left, N. W. Watson, was trained here; and the other inspector, George Burr, was formerly a weaver.

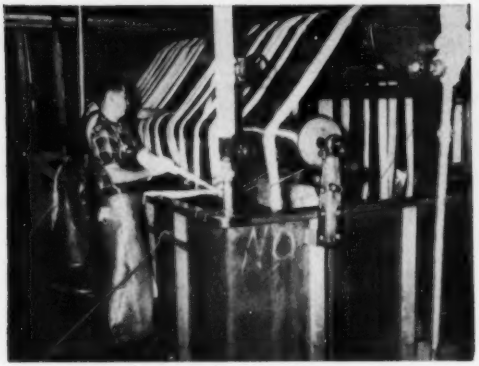
OPENING CEREMONIES were held on Dec. 19, 1950. Shown at the ribbon cutting are, left to right, James Harrell, vice president, J. P. Stevens & Co.; B. M. Keever, superintendent; J. P. Stevens, Jr., president, J. P. Stevens & Co.; S. B. Carson, manager; J. Strom Thurmond, former Governor of South Carolina; and Robert T. Stevens, chairman of the board, J. P. Stevens & Co.

56 Causes of TANGLED YARN— And How to Remedy Them

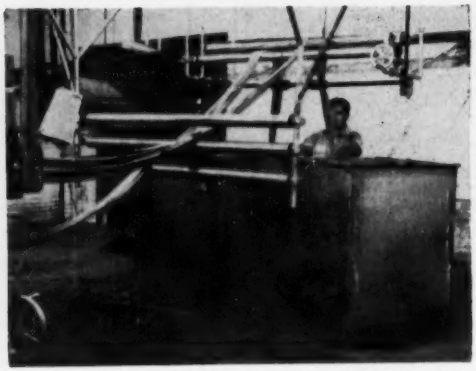
► *Most spinning mills have trouble with tangled yarn. We asked a mill man to tell us, from his experience, the causes of and remedies for this problem. Here is his list.*

By R. H. PHARR
Assistant Superintendent
Mandeville Mills

CAUSE	REMEDY
Bad spring under pick-gear pawl	Replace with a new spring.
Base rail out of line	Put base rail back in line. Find the cause of the misalignment and remedy promptly.
Bobbins on floor under a weight	Remove the bobbin. Keep bobbins on the creel.
Build too low on bobbin	Raise the builder.
Bushing too tight on lifter rod	Remove and ream out the bushing or replace it with a new bushing. Check for a thick place on the shaft.
Cam-gear key and keyway worn or stripped	Replace the key. Have a new keyway cut in another part of the gear.
Cam stud loose	Tighten the stud properly. If it is worn, replace it.
Choke on pick gear	Remove the choke. See that the frames are cleaned properly.
Cotton in chain whorl gear	Clean out the gear and keep it clean.
Cotton under pick gear	Clean out the gear and keep it clean. See that a regular cleaning schedule is set up and followed.
Crossarms binding	See if the frame is in line and level. See if trash or lint is causing the arms to bind.
High bobbins	Clean lint from the barrels of the bobbins. See that doffers push bobbins down on the spindles.
Latch hitting chain	Adjust chain so that it will not rub the latch. See that the latch is set properly.
Lay gear not properly meshed with spur gear	See that the fixer knows how gears should be set. If gears are worn, replace them.
Lifter-rod roller stand against samson	Check to see if the frame is lined and level. See that the lifter rod is properly adjusted.
Lifter rods and thread boards sticking	Check for lint accumulation and irregular oiling.
Lifter rod threaded too high	Replace with lifter rod threaded properly or repair the old rod.
Lifter rod with no shoe	Put on a shoe.
Lighting-arm bushings binding	Ream out present bushings or replace with new bushings.
Long or short chain run out	Adjust the chain.
Loose worm gear on rack	Tighten up the gear or replace it, whichever is necessary.
Mixed travelers	Put correct travelers on the rings. Caution the traveler changer to be more careful.
Not enough picks	Increase picks the necessary amount.
Not enough weight	Increase the weight. See that the weight is not touching the frame.
Pedal against frame	Adjust pedal so that it is level and works freely.
Pullman arm bolt loose	Tighten the bolt.
Pullman rod and stud worn	Replace both parts if necessary.
Rack wound back before end of doff	Adjust the rack to take a full doff. Caution operators not to wind back the rack until the doff is full.
Rails too high or too low	Raise or lower the rail if necessary. See that the rail is level from end to end.
Rocker arm binding	Check to see if the frame is level and in line. See if a lint accumulation is causing it to bind.
Rocker-arm holder too tight	Loosen up the holder.
Rod shoe against frame	Adjust the shoe so that it will not touch the frame.
Separator hangers against the spindle bases	Adjust the separators. A better spindle-plumbing job will remedy this fault.
Separators not adjusted	Space the separators evenly between bobbins and see that they are in line and not bent.
Spindle not in plumb	You either have a poor spindle plumber or your spindles need plumbing more often.
Stripped gear on upright shaft	Replace the gear.
Stroke too long	Shorten the stroke.
Sweeper not cleaning rods	Set up a cleaning schedule and delegate responsibility.
Tape off its sheave	Replace the tape. If it is worn or stretched, replace it with a new one.
Taper too short at the bottom or top of the bobbin	Adjust the stroke arm.
Tape too long	Adjust an old tape or replace with a new tape.
Tape whorl hitting traverse chain	If the whorl is loose, tighten it. If the bearing or stud is worn, replace it.
Threadboard rod with no shoe	Put on a shoe.
Traveler ring worn	Turn the ring over or replace with a new ring.
Traveler too light	Replace with proper weight traveler.
Weight against Pullman rod	Adjust the weight so that it will be free and will not touch any part of the machine.
Weight not balanced	Get weight in balance.
Weight touching floor	Adjust or shorten the weight chain.
Worn builder	Replace or rework the builder.
Worn cam bearings	Replace with new cam bearings. Pay more attention to oiling.
Worn cam rollers	Replace with new rollers. Check for proper adjustment. If the rollers are not level or spaced correctly, they will wear prematurely.
Worn cam stud, cam, or stand	Replace any worn part or, preferably, the whole assembly. A worn part never works properly with a new part.
Worn pick gear	Replace with a new one. Do not start up the frame until it is properly adjusted.
Worn pick pawl	Replace with a new pawl or rework the old one.
Worn upright shaft	Replace worn parts.
Worn whorl stud	Replace with a new stud. Oil properly.

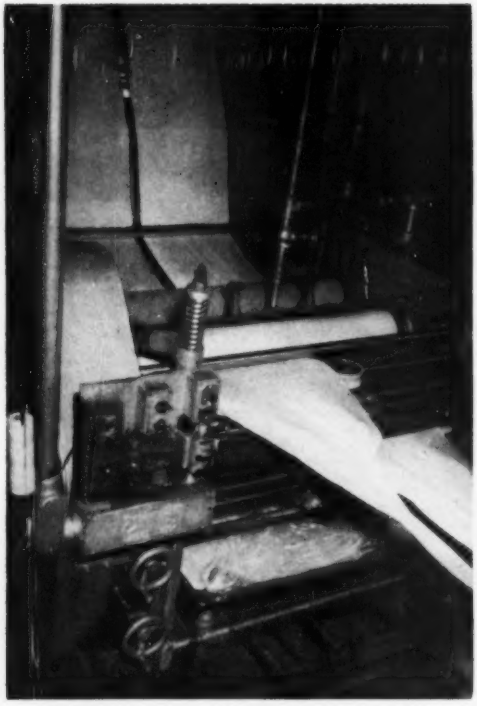


BLEACHING AND DYEING takes place in three 1,000-lb.-capacity stainless-steel tubs.



TWO MANEUVERABLE DOFF-OFF TRUCKS from bleaching and dyeing unit can be operated at one time for feeding the processer.

This Mill Doesn't Stretch Its TUBULAR-KNIT FABRICS



ENTERING END of processer shows the automatic controls and the position of the spreader propellers that keep markings off the fabric as it passes into the first squeeze rolls.

▶ *Gurney Mfg. Co. uses a tensionless combination processer and dryer after wet finishing, coupled with steam drying in the final finish, to produce relaxed and high-quality fabrics.*

By E. DALTON WHITE, *McGraw-Hill Atlanta Bureau*

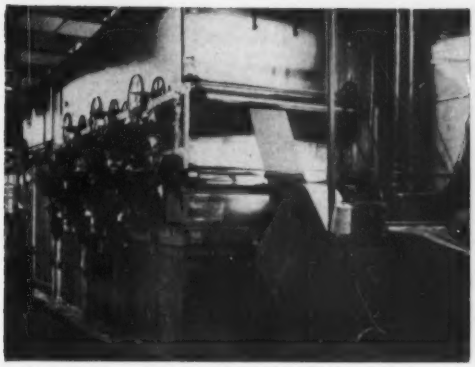
ONE OF THE troublesome problems in tubular-knit fabric production is (1) maintenance of the original knitted shape and (2) control over yardage, or length. A great deal of care must be exercised to eliminate as far as possible the tension that such fabric is subjected to during wet finishing.

Fabric processed and finished under tension is stretched from its original knitted shape. Under such conditions, the fabric will not hold its original shape after repeated laundering. It is this problem that is receiving constant attention from many knitting mills.

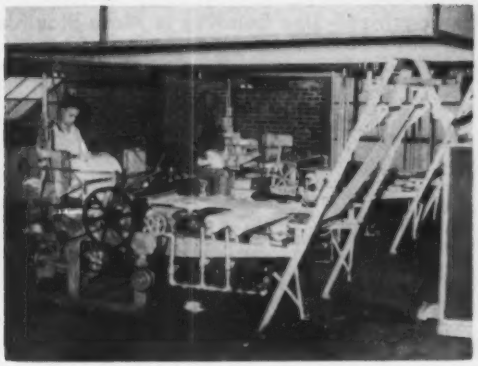
Gurney Mfg. Co., Prattville, Ala., has had splendid success in the prevention of stretch with a Tube-Tex combination processer and dryer, and a steam dryer in the final finish. Experience gained in operations and machine settings has been put to good use for different fabric weights and constructions and has resulted in production of high-quality knit goods.

In the Tube-Tex process, fabric is wet-processed without pulling or tension, and is fed by edge dryers. The tubular fabric goes over two inside dryers, with outside-edge dryers at each edge of the fabric. These latter are partially driven and feed the fabric so that no stretching occurs.

The large dryer has six independently driven perforated metal rollers, about 36 in. in diameter. The tension at each of these cylinders is controlled independently and so



***PROCESSER AND DRYER** runs tubular-knit fabric through at 25 to 40 yd. per min. Resultant moisture content is less than ½ of 1%.*



***FINISHING AND CALENDERING** produce the desired results by allowing the tubular-knit fabric to remain always in a relaxed state.*

set that there is no tension on the fabric as it goes through the dryer.

Installed on the dryer is a recent development that feeds hot air through ducts to each of the six cylinders so as to make the temperature the same throughout the dryer and in each cylinder. Air is regulated at each cylinder. As a result, a greater volume of hot air can be had at points where the fabric is the most damp. Less air can go to the cylinders in the later stages as the fabric dries and is ready to emerge from the machine.

Speed and temperature are easily controlled. Both vary according to fabric weight and construction and the number of strands being processed through the machine. Speed can be varied from zero to 70 yd. per min. Speed is so set that at the delivery end the emerging cloth has the proper percent moisture. Temperature is maintained at approximately 300° F. throughout the dryer.

Bone drying is detrimental to fabric, and this possibility must be carefully watched. Another factor of importance is the care needed to insure that fabric of the approximately same weight and construction is processed at the same time. Otherwise there is a tendency to stretch one weight of fabric at the same time the other one or two may have the proper amount of tension.

FINAL FINISHING. The same care in the prevention of stretching during drying is exercised by the Gurney people in final finishing of the fabric. From the dryer the fabric is fed in folds onto movable trucks and taken to the finishing machine. A feature of the process is that the fabric is fed to the finishers by edge dryers and is not allowed to pull itself or be under tension. Adjustment is made in the patented device to eliminate bows in the fabric as it is steamed, brought to proper width, and then rolled onto paper cores for shipping.

The finishing plant was designed and arranged for continuous flow of material without back movement. This lay-out has made for more efficient operations and eliminated storage problems and other production bottlenecks.

Finishing Procedure

The easy flow of material through the plant starts from the time fabric rolls are received from storage. All knitted tubular fabric, after marking, is sent to the gray storage room, where it is sorted, graded, and made up into lots before delivery to the finishing plant.

From the twenty-strand 1,000-lb.-capacity stainless-steel and monel-metal bleaching and dyeing tubs the fabric is placed in two strands in squared-off tubs (trucks) that have about 200-lb. dry-fabric capacity. These tubs have holes in the bottom to drain off excess water.

The square tubs are on coaster stands and moved to the processer and dryer. Here they are placed on floor-level roller turntables so that the operator can revolve them in either direction to remove twist before the strands enter the spreader on the processer.

Experience has shown the company that care must be exercised in setting the propellers in the spreader to prevent marking the fabric. Adjustment is made by proper setting of the spreader. It has also been found that a sag must be allowed in the cloth before it goes into the spreader to provide a relaxed position and prevent fabric distortion. Such precautions allow the fabric to pass through the dryer in a relaxed state without tension and stretch.

The processor is equipped with two sets of squeeze rollers that have calibrated positive-pressure controls. The first set of rolls squeeze out as much moisture as possible. The fabric is then fed into the finishing solution and then through the last set of squeeze rollers. The pressure controls can be adjusted to give a heavy or light finish, or soft or boardy finish, as desired.

The company has developed its own finishing formula, and this is automatically fed to the bath as the fabric passes through. After the finishing bath, the fabric is squeezed by the second set of rollers before passing into the dryer.

In the dryer, the lighter-weight fabrics run at about 40 yd. per min., but the average speed is 25 to 30. Normally two strands are put through the dryer at a time; but only one strand if the fabric is heavy or wide-knitted.

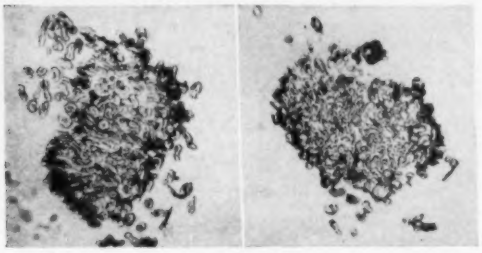
Evaluation of System

The new dryer equipment replaced two older units. Its efficiency is indicated by the fact that the new machine processes as much yardage in a single shift as formerly required three shifts with the two older machines.

Maintenance of the equipment has not presented any unusual problems. A checklist has been prepared for standard inspection and maintenance. All motors, gears, and moving parts are inspected and thoroughly lubricated on a weekly basis, with daily lubrication when necessary. The machines are maintained in an excellent state of cleanliness by means of a thorough weekly cleaning.

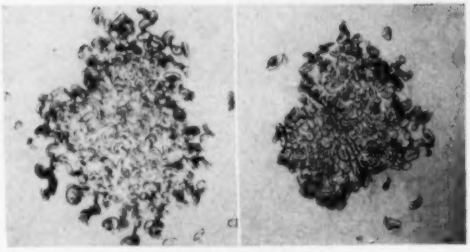
The system of inspecting, lubricating and cleaning has produced excellent operating results. The plant has operated on a three-shift basis and has not had a major shutdown during its year of operation.

Homogenized-Size Bonding Is More Flexible



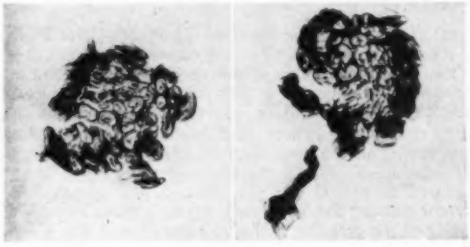
28s—Boiled size

OUTLYING FIBERS have no size (shown in black) to control them. Other fibers are so loaded with size that yarn elongation and flexibility are impaired.



28s—Homogenized size

PRACTICALLY EVERY FIBER is under control. Non-rigid bonds hold each fiber to the next and result in efficient sizing with slight reduction in original yarn elongation.

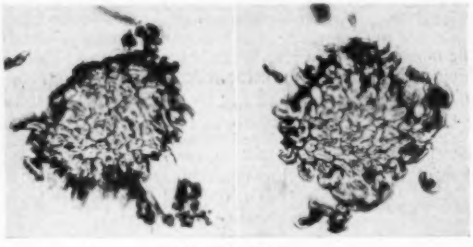


40s—Boiled size

Heavy but discontinuous coating is characteristic of boiled size. Viscosity in this case may have been too high.

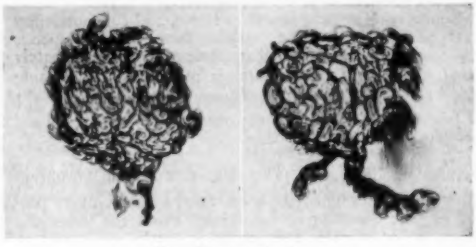
40s—Homogenized size

Viscosity appears to have been too high here as in the 40s boiled size, but the "stringiness of homogenized size is still visible.



60s—Boiled size

Boiled size once again appears as globs and is not indicative of efficient sizing.



60s—Homogenized size

Reaching out to control every fiber, the homogenized starch does an efficient job even on a fine yarn.

Why HOMOGENIZATION Helps

A recent comparison of the effect of boiled and homogenized size on coarse, medium, and fine yarns shows homogenized size will:

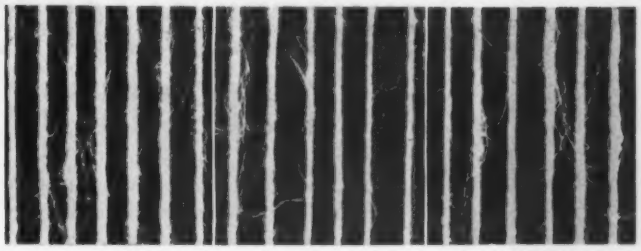
- ***Improve fiber lay***
- ***Retain more elongation***
- ***Give less rigid fiber bonding***
- ***Improve single-end strength slightly***

By JAMES H. KENNEDY, *Southern Editor, TEXTILE WORLD*

A RECENT STUDY of homogenization indicates, by both visual comparisons and physical tests, that a homogenized warp tends to run better than a warp treated with boiled size for three main reasons:

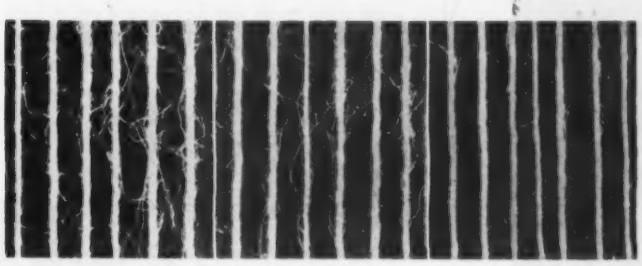
1. Increased fiber lay

Homogenization Improves Fiber Lay



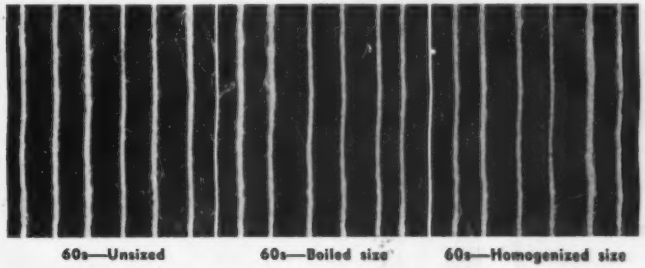
28s—Unsized 28s—Boiled Size 28s—Homogenized size

BOTH SIZES were prepared to the same viscosity, and both sizes caused many of the loose fibers to be laid flat, but the homogenized size appears to have a slight advantage in degree of fiber lay on this coarse yarn.



40s—Unsized 40s—Boiled size 40s—Homogenized size

THIS YARN was very fuzzy before sizing. Boiled size improved appearance a lot, but the homogenized size showed a marked improvement over the boiled size. Viscosity was the same in both cases.



60s—Unsized 60s—Boiled size 60s—Homogenized size

THE COMBED YARN was not very hairy in the unsized state. Homogenization once again showed its superiority by laying down more fibers than the boiled size. Viscosity of boiled and homogenized size was the same.

Slashing and Weaving

2. More efficient fiber bonding
3. Better physical properties.

The tests were conducted while the author was a graduate student of Prof. Edward R. Schwarz at the Textile Division, Massachusetts Institute of Technology. Background work for the tests was reported in TEXTILE WORLD, Nov., 1949. At that time it was shown that homogenization definitely aided slashing in the several cases cited, but the reasons why these improvements occurred were not known at that time. This study gives at least some of the answers to the questions raised in the minds of mill men when trying to explain why warps treated with homogenized size should exhibit better operating characteristics than warps treated with boiled size.

How the Study Was Made

Since the study was limited to a few months, we decided that an intensive study of certain aspects of the problem would be better than a broad study which could not make a very thorough analysis. In order to limit the study, therefore, only cotton warps were used. Tests were further limited to potato starch so that a wide range of yarn numbers could be examined. A Gaulin homogenizer in each of three mills furnished the homogenized size.

It is a well-known fact that viscosity affects size pickup and penetration. In order to minimize the effect of viscosity in this test, comparisons between boiled size and homogenized size were made with both suspensions at the same viscosity. Thus, although viscosities varied between the three mills, the viscosity of the boiled size at each mill was the same as the viscosity of the homogenized size made for the test at that mill.

Three yarn samples—unsized, and sized with boiled and homogenized sizes—were obtained at each of the three mills cooperating in the study. Thus a total of nine yarn samples were procured. Each sample consisted of 30 yd. of yarn taken from the end of a warp beam immediately after slashing (except, of course, for the unsized sample obtained from a section beam). The 30-yd. lengths were wound (beam width) onto paper tubes and taken to the testing laboratory, where they were conditioned according to ASTM specifications.

The three types of yarn used in the test were as follows:

1. Coarse—28s carded
2. Medium—40s carded
3. Fine—60s combed

What the Study Showed

Effect of Fiber Lay

To compare the different effects on fiber lay, the yarns were photographed at a relatively low magnification through a lens which allowed both outlying fibers and the yarn proper to be in focus. As is shown in the accompanying photomicrographs, either size treatment—with boiled or homogenized-size—produced a definite increase in fiber lay over the unsized yarn. Differences between boiled and homogenized are not as striking as the comparison with unsized yarn, but the homogenizing treatment shows a definite trend toward greater fiber lay.

In observing fiber lay, the greatest

SUNOTEX SLASHES SIZING COSTS

SIX YEARS AGO a New Hampshire mill used an emulsifiable oil, a penetrant, and a preservative in the softener for sizing viscose and acetate warps on Johnson slashers. The three size components were expensive, and either had to be dissolved separately or heated before mixing. Moreover, uniformity of the sized warp could not be counted on. A Sun representative suggested all three oils be replaced with "Job Proved" Sunotex RSO-48. Result: an immediate 25 percent reduction in formula costs alone, *plus* new ease in mixing and dependable sizing.

CURRENT PRODUCTION is marquisette for curtains, taffeta for women's wear. Fortisan and Nylon warps, too, have been sized with Sunotex RSO-48—with equally good results.

SUNOTEX RSO-48 SPEEDS WEAVING by protecting ends from breakage by shuttles and preventing build-up of static electricity. It boosts quality by reducing "snowballing" of filaments.

THE MILL CREDITS SUNOTEX RSO-48 for much of its reputation for product quality. In finishing, it scours readily and uniformly from fabric, gives even dyeing—makes production better right down the line.

Sun has the right "Job Proved" textile-process aid for every material, every operation. For the help of a Sun technical representative, call or write the nearest Sun Office.

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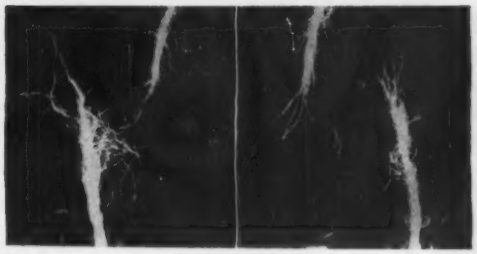
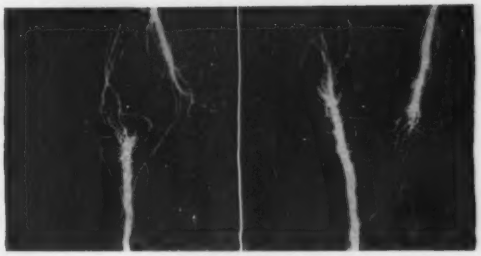
SUNOCO

Yarn-Break Appearance Differs With Size Preparation



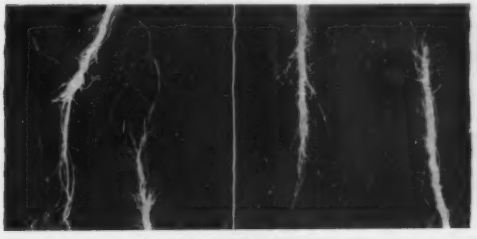
28s—Boiled size

BROKEN ENDS show quite a bit of roughing-up prior to break in this 28s boiled-size sample. Breaks are generally of the brush type.

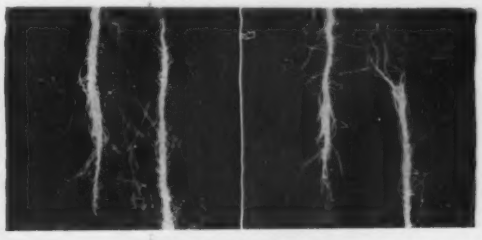


28s—Homogenized size

TAPERED and cup-and-cone breaks characterize homogenized yarns. Little fuzziness is in evidence.

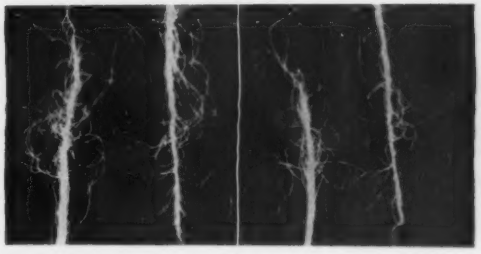


40s—Boiled size



40s—Homogenized size

LITTLE DIFFERENCE *is shown between homogenized and boiled size in this instance. It is believed that size viscosity was higher than the yarn required for efficient sizing, and that any advantage of homogenized size was thus obliterated.*



60s—Boiled size

VERY FUZZY breaks are mostly of the brush type. Cleaner breaks would indicate high fiber control in the yarn.

60s—Homogenized size

A STRIKING DIFFERENCE is evident when these breaks are compared with the boiled size sample of this fine yarn.

Percent Size Added			
	28s	40s	60s
Homogenized	5.9	9.9	10.3
Boiled	7.0	8.7	6.3

HOMOGENIZATION apparently can cause a change in size pickup since all yarns tested were sized with size of same viscosity.

advantage of using homogenized size is shown in medium and coarse yarns. The reason may possibly be that with the coarser, uncombed yarns there is greater opportunity for a better size to do a better job than with finer, combed yarns which already have most fibers under control.

With fewer fibers protruding, there is less chance of a fiber being caught in a drop wire, heddle eye, or reed. Hence, increased fiber lay could easily account for at least part of the increased weaving efficiencies reported with homogenized size.

Effect on Fiber Bonding

Bonding of fibers in a sized yarn is shown quite well in cross sections photographed through the microscope. Starch appears black when subjected to iodine vapors. The cross-sectional photomicrographs on page 130 show size penetration, coating, and the special condition of the fibers which lie around the outer surface of the

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yarn. It is these outer fibers which in large part determine the sizing efficiency.

The Theory of Non-Rigid Bonding

An important part of this study presents a new viewpoint to the age-old argument of penetration vs. coating. The results of this study indicate that neither the degree of penetration nor the amount of coating is in itself enough to describe sizing efficiency. It is believed that the distribution of size around the yarn is best measured by observation of the method by which outside fibers are held to each other and to the yarn core.

Since there is no standard nomenclature on this particular subject, three arbitrary terms were applied to the most frequently occurring types of fiber bonding. The three terms, illustrated in the drawings at the right, are: 1. cementing, 2. coupling, and 3. non-rigid bonding.

Cementing typifies the condition where the outer fibers in a yarn are completely embedded in the size.

Coupling refers to the condition where some fibers are only partly embedded in size, but in which there is still a large amount of starch in evidence.

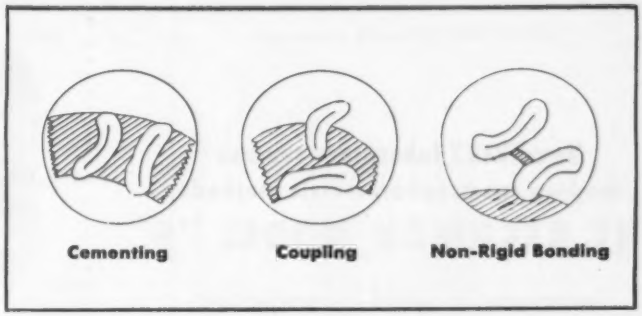
Non-rigid bonding is the term used to describe the joining of the outer fibers by thin bonds of starch with little or no general embedding of the fibers.

Most mill men know that the cross-section of a yarn does not always appear compact and circular. In some cases a size can encircle a compact yarn, but the same size may not be "stringy" or flexible enough to reach out and hold outlying fibers of a less compact or "fuzzy" yarn The accompanying photomicrographs illustrate this point and thereby show one of the major differences between homogenized size and boiled size.

One of the purposes of sizing is to increase the degree of fiber lay. The ability of a size to control fibers without embedding them is an important advantage because such a size will give the required yarn strength and toughness without seriously decreasing flexibility or elongation.

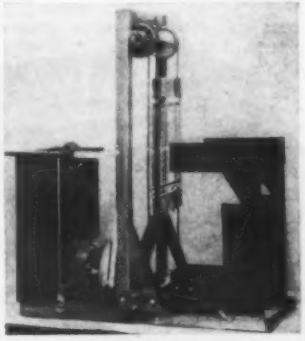
Penetration to the core of the yarn is not believed necessary. Neither is a heavy coating of starch desirable because such a condition introduces brittleness. An ideal size deposits only enough size on the surface to protect the fibers and to bond them sufficiently to withstand weaving.

A fiber lying on the outside of yarn need not be embedded in starch in order to add to weaving efficiency. Reduction in flexibility and elongation can easily more than offset the effect of any possible increased resistance to abrasion.



Therefore, a size which produces a maximum of the non-rigid bonds most nearly approximates a perfect size. Homogenized size definitely shows this condition, so much so that the non-rigid bonding is a characteristic method of identifying yarns treated with homogenized size.

In this study, the extremes of the yarn range—28s and 60s—most clearly showed the difference between boiled and homogenized size. It is believed that in both cases the original boiled mix was at the best viscosity for the particular yarns, and that when the homogenized batch was made up at the same viscosity the differences were easily seen. With the 40s yarn, however, the author believes that the original mix was too heavy and that the homogenizing, although showing some improvement, just made a small impression. It is felt that this mill could operate efficiently with much less size on the yarn. This assumption is borne out by the fact that the mill using the 40s yarn was having trouble with excessive shedding at the slasher split rods and also at the loom.



THE SHEDDER gave few definite conclusions, but may be a start toward a good machine for testing size efficiency. The harness is driven by a motor controlled by variable-speed drive. Yarn is held at left side by being taped to aluminum plate. Threaded through heddle eye, yarn is then attached to weight resting on adjustable inclined board at right. Each yarn is individually weighted. Harness throw is adjustable by moving crank arm on flywheel disk. Cycles are recorded on counter at top.

Physical Properties Show Improvement

Strength and Elongation

To check on the effect of homogenized size on physical properties, fifty specimens of each yarn—unsized, and treated with boiled, and homogenized sizes—were taken at uniform intervals across the warp beam, were conditioned, and then single-end tested on an inclined-plane-type tester.

Results: As the chart, "Increase in Strength Due to Sizing," shows, yarns treated with homogenized size averaged somewhat stronger than the yarns treated with boiled size. Once again the coarse and fine yarns show more advantage for the homogenized size than does the medium yarn. This condition is likewise most probably caused by excessive starch on both the medium yarn samples, along with too high viscosity.

The chart, "Decrease in Elongation Due to Sizing," shows that the coarse yarn treated with homogenized size had only 28% of its elongation taken away by the size. The boiled size, however, removed 41% of the elongation that was in the unsized yarn. This fact means that homogenized yarn absorbs more shock than a yarn sized with boiled size.

Although strength and elongation tests do not always serve as a perfect prediction of weaving efficiency, these tests serve as another indication of the reasons why mills report increased weaving efficiencies after installation of a homogenizer.

Resistance to Shedding

One of the measures of sizing efficiency is the degree of shedding at

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IN TEXTILE APPLICATIONS

Spectrophotometric measurements—based on analysis of liquid, solid or gaseous samples by light absorption—have become one of the most important methods of today's process control operations. Complicated analyses requiring hours to perform by standard chemical procedures are now completed in a matter of minutes using modern spectrophotometric methods.

Up to the present, *quality* instruments have been beyond the reach of many laboratories. Now, however, the development of the new Beckman Model "B" Spectrophotometer makes available for the first time a *precision* instrument—convenient and simple to operate—*yet versatile, accurate and low-priced.*

The Model "B" combines many of the advancements pioneered in the famous Beckman Quartz and Infrared Spectrophotometers . . . high resolution . . . wavelength and photometric accuracy . . . freedom from stray light . . . wide spectral range . . . quality construction.

It features direct reading absorbance and transmittance scales . . . complete elimination of stray light from 360 to 1000 millimicrons—less than 1½% even at 320 millimicrons . . . interchangeable phototubes for wider wavelength range . . . inexpensive sample cells . . . 4-position cell carriage for faster readings . . . and many other important features.

The Model "B" is by all standards the outstanding instrument in its field. Write for full details. *Beckman Instruments, National Technical Laboratories, South Pasadena, 12, Calif.*

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Many Profitable Textile Applications for the Beckman Model B

Because the Beckman Model B Spectrophotometer reduces color analysis to an exact science, free of variations in human judgment, both large and small textile mills are employing this instrument for faster, simpler, more precise color control. Typical applications include . . .

1. ***Testing Dyestuff Shipments:*** *Actual mill reports state the Model B not only gives far greater accuracy and sensitivity than visual methods, but also saves as much as ½ hour per test.*

2. ***Prediction of Dyeing Formulae:*** *Permits accurately selecting a mixture of dyes to match a sample containing unknown dyes.*

3. ***Accurate Color Specifications:*** *The Model B permits colors to be specified and described by definite numerical standards. Greatly simplifies purchasing specifications, exchanging information on colors, dyes, etc.*

4. ***Maintenance of Standards:*** *Mathematical color specifications eliminate changes due to sample becoming dirty or faded through handling.*

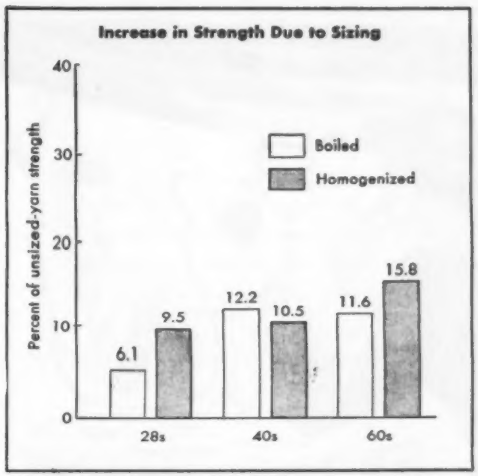
5. ***Evaluation of Color Fastness:*** *Permits determining both fading of color and fading on tone—accurately and quickly.*

6. ***Accurate Evaluation of Exhaust Factors:*** *The Model B permits precise determinations of depletion or exhaustion rates of various dyes and mixtures.*

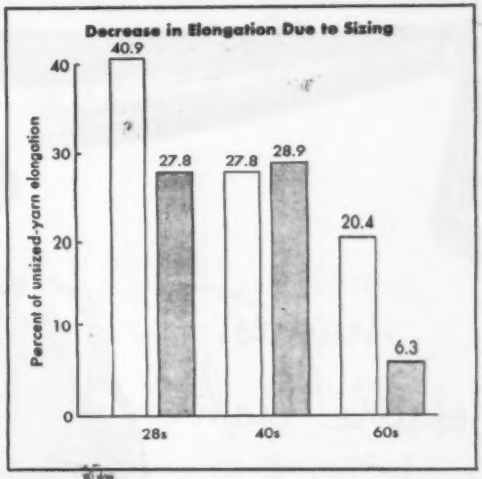
7. ***Rapid Identification of Dyeing Procedures:*** *Samples of fabric or solution can readily be analyzed to determine dyeing methods used in order to duplicate or improve procedures.*

THESE AND MANY OTHER PROFITABLE APPLICATIONS for the Beckman Model B in modern textile operations will gladly be explained in greater detail by your authorized Beckman dealer. Or write direct!

✻ **Beckman Instruments include: pH Meters and Electrodes • Spectrophotometers—Radioactivity Meters—Special Instruments**



EITHER SIZE TREATMENT *increased strength, but homogenization produced stronger yarns in two out of three cases.*



MORE NATURAL ELONGATION *is left in yarn treated with homogenized size than in yarns treated with boiled size.*

the slasher and at the loom. Although a good size will shed somewhat as it performs its function of protecting the yarn, excessive shedding is often interpreted as an indication of poor sizing. There is no testing machine that accurately measures this resistance to shedding, and one part of this study was an attempt to design such a testing machine.

The shedder, as the machine was called, endeavors to simulate the shedding action of the loom. It was believed that a simultaneous stretching, bending, and rubbing of the yarn would wear the yarn as it is carried in the loom. It was recognized that this action was only one of the many types of wear and shock that warp yarn is subjected to in the loom. But it was also thought that such a testing machine would give more practical results than any of the present conventional testers.

The shedder consisted of a harness driven by an electric motor. There were arrangements for varying the speed, the harness throw, the yarn tension, and the distance from the harness to the point where each end of the yarn was held.

This testing machine, then, was an attempt to simulate part of the action of a loom on a testing laboratory. If this machine could produce satisfactory results, then the expense of actual loom tests could be reduced or eliminated. But this particular testing machine, as used in these tests, did not operate as was expected.

The shedder failed to give usable results. The number of harness cycles required to break a yarn varied from 50 to over 10,000. An arithmetic average of such values is not even an intelligent approximation. All of the variables were altered in turn (as far as time permitted), but no one of them succeeded in bringing the results down to a usable range.

Another item of interest is the fact that less than half of the yarns broke in the heddles, where the most severe action took place. The same is perhaps true in the loom as well, in some cases; but the shedder wore the yarn in only one place because there was no provision for moving the yarn along as there is in weaving.

It may be that the shedder could be used for something else besides measuring the number of cycles to break a yarn. The machine might be used to measure the roughing-up of yarns. The unit might also be used in conjunction with a single-end tester to show loss in strength or elongation due to the shedding action.

The shedder, as used in this study, did not prove to be the answer to a definite need in the industry for a testing machine that will accurately aid in predicting weaving efficiency. This machine and the work done in conjunction with it may, however, stimulate further work which may lead to a successful end.

Appearance of Shedder Breaks

One use of the shedder was the flexing of yarns to the breaking point for subsequent examination under the microscope.

Homogenized yarns showed a type of break very different from yarns treated with boiled size. Three general types of break were observed:

1. Brush—both ends appeared as bristles of a paint brush, but not as straight across the fracture.

2. Tapered—each of the ends was tapered and worn down to the point where the break occurred.

3. Cup-and-cone—one end appeared to have been pulled out of the center of the other end of the break.

The brush type of break indicates a brittle break due largely to flexing and with little elasticity in evidence.

The tapered type of break indicates a gradual wearing away of the yarn with some fiber slippage until the actual separation occurs.

The cup-and-cone type of break indicates a failure due more to tension than abrasion, with some fiber slippage and some breakage.

In addition to the type of break, it is of importance to note the degree of roughing-up of the fibers adjacent to the actual point of rupture. It is natural to assume that yarn which roughs-up a lot will tend to become tangled more easily, break in the heddles or reed more readily, and generally exhibit poorer weaving characteristics than a yarn which does not have many fibers sticking out from it at all angles after a little flexing or rubbing in the loom.

The accompanying pictures show the differences that were found to exist between homogenized yarn and yarn treated with boiled size.

Generally speaking, yarns treated with homogenized size tend to produce clean breaks, mostly of the cup-and-cone type. Yarns treated with boiled size produce a majority of brush breaks with considerable roughing-up in evidence. These various types of

(*Continued on page 218*)

highest possible light fastness for Nylon

DU PONT NEUTRACYL DYES—neutral dyeing colors—have been specifically developed to give the highest possible light and wet fastness on both filament and staple nylon. They can be applied in the same short time cycle as acid dyes.

These new dyes, such as Neutracyl Red B, are especially recommended for dyeing nylon staple. Fabrics made from staple dyed with these new colors provide the superior light fastness needed for upholstery materials, outerwear, pile fabrics, suitings, automotive top materials, government fabrics and infants' wear. They are also suitable for dyeing wool, giving similar fastness properties.

For information on the Neutracyl dyes—or for help on any coloring problem — consult our Technical Staff. E. I. du Pont de Nemours & Co. (Inc.), Dyestuffs Division, Wilmington 98. Delaware.

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BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

Consider These Points If You're Handling CASHMERE

- ▶ Quality of fiber depends on its origin.
- ▶ Maximum yield varies from 30 to 50%
- ▶ Shorter length than wool requires more twist
- ▶ Fineness of fiber requires slower carding, finer card wire than for wool
- ▶ Stock dyeing is best accomplished in multi-floor dye kettle to overcome effect of matting

By **GUSTAV ZELLNIK**, *Consulting Editor, TEXTILE WORLD*

Fiber Characteristics Related to Origin

Cashmere, one of the choicest fiber produced by nature, forms the undercoat of a goat (Capro Hucus Laniger) now fully domesticated and kept in the Northern and Western parts of China, the region of Tibet, and in the province of Kashmir in the northern part of India. It was in this latter region apparently that the value of this fiber was first recognized, and that the name for this outstanding product originated.

The coat of these goats is made up of very fine underhair that yields the desirable product, and long, straight, coarse, beard hairs that form the outer cover and protection against rain. Between the underhair and the outer cover there also grows the so-called intermediate hair. This intermediate hair, also known as secondary hair, is difficult to remove because it is finer than the coarse beard hair. However, it is not as fine as the underhair. The value of the stock is determined by the quantity and characteristics of the underhair. The coarse outerhair, which is similar to ordinary goat hair and with which it also has common uses, cannot be considered as real cashmere hair. While the rams have more of the fine undercoat, the hair from the ewes is finer.

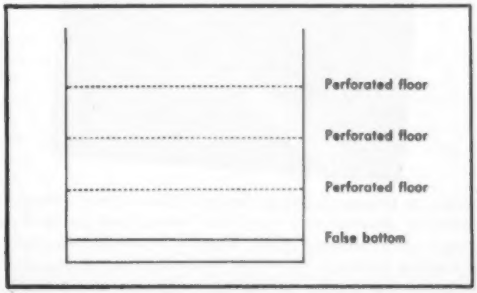
The cashmere goat of the Himalaya breed must be carefully distinguished from the ordinary Chinese goat, which is of quite common breed and whose down is rather coarse, contains much kemp hair, and lacks eveness in both fineness and length.

The product known on the market as Persian (Iranian) cashmere is a fiber from the down of a goat of the same family as the Chinese cashmere goat. Both goats are quite similar in appearance. The hair of the Persian goat, also known as the Iranian goat, differs in some ways from the hair from the Tibetan and Chinese cashmere goat. The finest of the Persian down is slightly coarser than the down derived from the Chinese cashmere goat. A further differentiation between what is known as the Persian and Chinese cashmere is that the Persian fiber comes in a different assortment of shades.

Even though the cashmere goat is now fully domesticated and highly valued for its fur and as a meat and dairy producer, it is rarely raised in large herds. Since practically none of the wool is used domestically, the best estimates of production can be and must be based on available export figures of the past. The average production of the Chinese cashmere down over a period of ten years (war years excluded) is about 1,000,000 lb. yearly, whereas the Iranian product is variably estimated at as much as nearly 2,000,000 lb. yearly. The bulk of these exports have gone to U. S. A., England, and Germany. These exports, however, have fallen down sharply in the years after World War II because of the Chinese civil war and of immense difficulties in transportation from the interior of China to its seaports.

The harvesting of the hair is not done by shearing the fur off the animal, but by combing the goat shortly before the under-growth begins to shed naturally. Shedding occurs during the late spring or early summer,

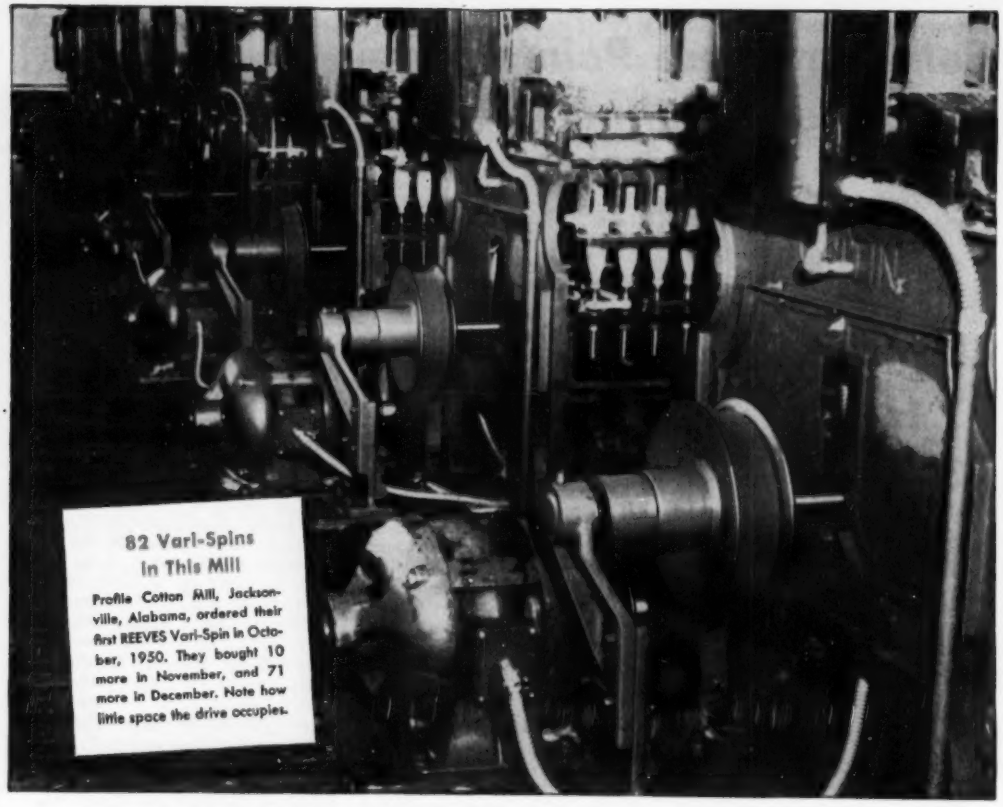
(*Continued on page 220*)



***A DIVIDED DYE KETTLE**, as shown diagramatically above, is recommended for stock dyeing of cashmere because of the tendency of the fiber to matt. Dividers will help penetration, permit larger lots to be handled, permit use of less dye.*

Wool Grade	Breaking Strength of single fiber (gm.)	Tensile Strength (Kgm. sq.cm.)
60s	7.31	1590
70s	4.82	1537
80s	4.57	1526
Cashmere	2.54	1444

***BREAKING STRENGTH** of cashmere fiber is only 2.54 gm. But if its small cross-sectional area is taken into consideration, as in the computation of the tensile strength (in Kg./sq. cm.), the cashmere still has sufficient strength when compared to wool.*



82 Vari-Spins In This Mill

Profile Cotton Mill, Jacksonville, Alabama, ordered their first REEVES Vari-Spin in October, 1950. They bought 10 more in November, and 71 more in December. Note how little space the drive occupies.

With REEVES Vari-Spin, you change spinning speeds instantly, accurately—without stopping

Install Vari-Spin and get all these benefits:

1. The exact speed for every yarn set—even to a fraction of an rpm.
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TURN OF SCREW CHANGES SPEED. Slightest speed change is instantly secured and positively maintained by turning single speed shifting screw. REEVES Drive—incorporating operating principle proved in 300,000 installations—is so positive that return to previous cylinder speed within fraction of rpm is secured.

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Aim Your Sights at Upkeep In the POWER PLANT

Forstmann Woolen Co. emphasizes power-plant upkeep, rather than repair, through:

- ***Insisting on good original design of equipment***
- ***Developing the proper attitude in the maintenance crew***
- ***Keeping costs down through orderliness***
- ***Using new materials or modifications to solve equipment problems***

By F. L. BRADLEY, *Plant Engineer, Forstmann Woolen Co.*

THE CARDINAL DIFFERENCE between the aims of upkeep and repair is that upkeep of the plant, as the expression implies, tends to keep the efficiency of equipment and plant in its original state, while repair mends or replaces the worn-out or broken parts. Thus, repair is concerned with restoring the original form of the plant and equipment, while upkeep aims at preservation of its original efficiency. Therefore, in any power house, a preventive-maintenance program should stress, first, upkeep; and second, reduction of major repairs.

Proper Design Helps Preventive Maintenance

One of the most positive and profitable approaches to preventive maintenance in a plant is proper design. The operation of a plant or equipment burdened with poor design characteristics always must face an uphill maintenance fight. Unless that design is adaptable to change or correction, maximum efficiency is only a mirage; and repair is the order of the day.

High steam pressures and other advances have given us much to brag about in our performance figures. But this development in the art of generating steam and power has been acquired at a sacrifice in simplicity. The result is increased maintenance in practically every piece of equipment, from the boiler feedwater system through the steam generator and the entire steam-distribution system up to and including the prime mover. Consideration of these increased sources of maintenance gives ample proof of the desirability of simplicity in design as a goal and is an effective attack on the maintenance problems of the power plant as a unit.

In a typical plant designed with emphasis on simplicity, all the equipment included is essentially necessary for generation of steam and power.

Coal, as the principal fuel, is fed by gravity to a pulverizer for its preparation and delivery to the burner. The coal scale for cost control and the coal feeder for combustion control are the only additional pieces of equipment in the fuel system. Water-cooled furnaces with only the essentials in firebrick reduce refractory replacements to a minimum. Fly-ash-removal equipment protects the induced-draft fans and prevents a fly-ash nuisance problem in the surrounding community.

The bent-tube boiler with its favorable water circulation and welded drums enjoys basic protection against tube leakage and embrittlement troubles. Apexior application to all watted surfaces, together with supervised water treatment, may eliminate or reduce to a minimum corrosion within the boiler. A de-aërator heating the feedwater and delivering it to the boilers free of oxygen helps prevent internal corrosion. Modern equipment for power and extraction-steam production does not present any serious maintenance difficulties.

The constant improvement in power-plant apparatus is eloquent evidence of the manufacturer's contribution to the battle for equipment upkeep and reduction of major repairs. Replacement of the horizontal-return-tube boiler by the water-tube unit has provided a safer and more flexible unit. The design of the latter features not only accessibility in making inspections and routine repairs, but effective means of maintaining capacity and efficiency through adequate servicing and cleaning.

The unit pulverizer has contributed greatly to the art of burning a wide range of coals. Properly relayed with other pulverizer units, its accessibility permits repair without unfavorable effect on the availability of the boiler it serves. Wear of parts definitely im-

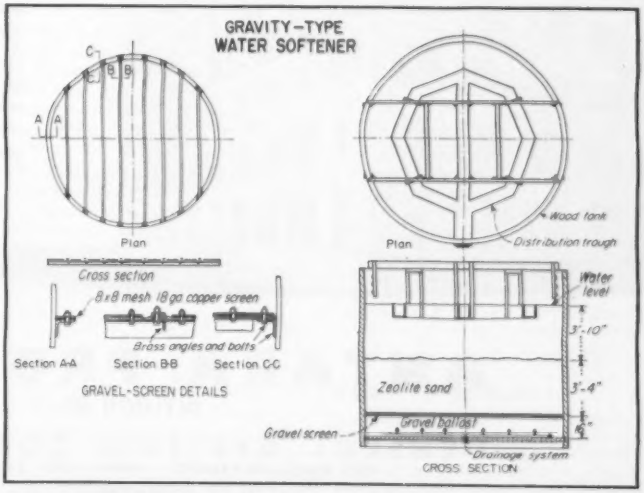

Fig. 1—A COPPER SCREEN mounted beneath the gravel bed to control movement successfully prevented blow holes formerly caused by backwash-water surges.

A paper delivered at the recent 2nd Annual Plant Maintenance Conference, Cleveland, Ohio.

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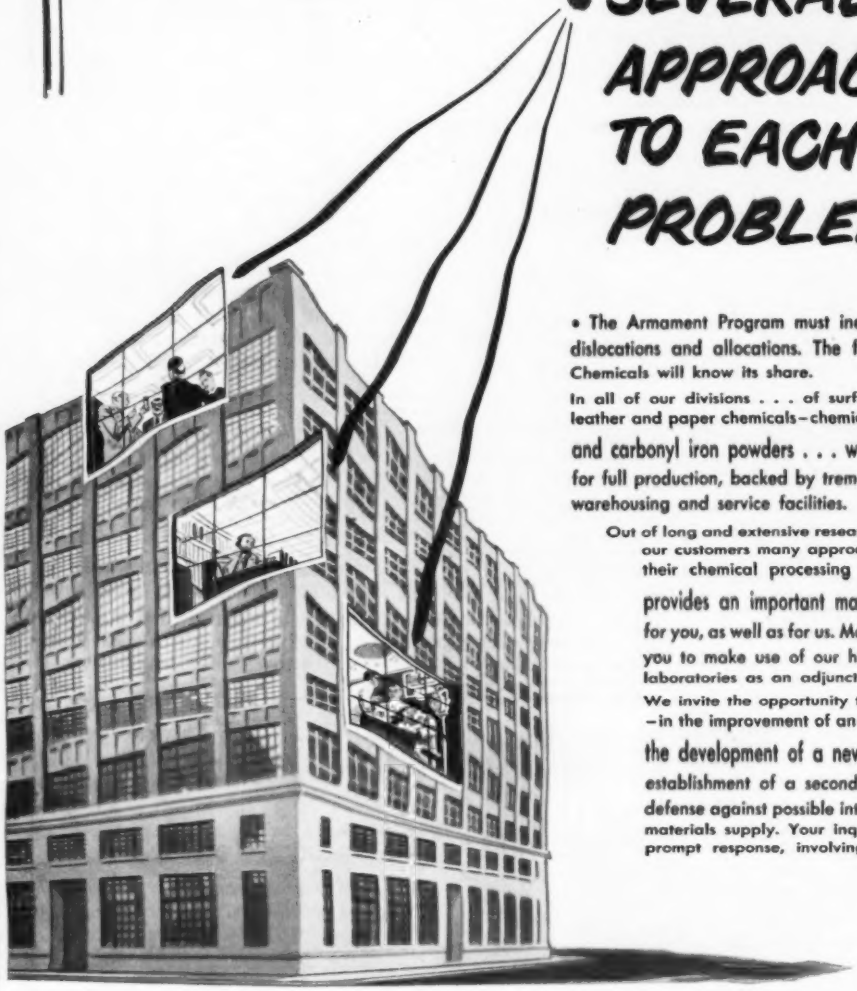
• SEVERAL APPROACHES TO EACH PROBLEM



• The Armament Program must inevitably produce dislocations and allocations. The field of Organic Chemicals will know its share.

In all of our divisions . . . of surfactants — textile, leather and paper chemicals — chemical intermediates and carbonyl iron powders . . . we are organized for full production, backed by tremendous research, warehousing and service facilities.

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pairing capacity has been the principal trouble encountered. One manufacturer is offering wearing parts with tungsten-carbide surfaces to extend their wearing life. While I cannot speak from experience on this, it is claimed this improvement will extend the life of these parts several times.

Improved Stoker Design Helps Maintenance

The stoker, which originally replaced the human coal heaver, has experienced developments conducive to improved upkeep and repair. The modern stoker, from crude beginnings with only a few basic control rods and levers, has become a piece of precision equipment. Notwithstanding its lack of accessibility for emergency repairs, its application is increasing in the industrial field.

Those of you who have stoker installations should be interested in the work of the Detroit Edison Co. in reduction of fireside deposits. In a paper presented at the last annual meeting of the A.S.M.E., Messrs. Murphy, Piper, and Schmansky made an excellent contribution to the solution of the upkeep problem in stoker-fired furnaces. An abstract from their paper reads:

"Increasing the humidity of combustion air to at least 16 lb. of water per 1,000 lb. of dry air has been found to reduce greatly fireside-deposit troubles in stoker-fired steam generators at the Delray Plant of the Detroit Edison Co. It is believed that by keeping the heating surfaces cleaner than normal, humidification will improve average boiler efficiency sufficiently to compensate thermally for the water added to the combustion air, leaving pronounced gain in availability and lower maintenance. Humidification appears to decrease volatilization from the fuel bed, particularly of silicon compounds."

Screen Prevents Zeolite Blow Holes

Adaptability of equipment to corrective-design measures often provides an effective approach to preventive-maintenance problems. You see illustrated a simple change that successfully overcame a design weakness. The zeolite softener shown is a gravity-type unit extensively used in industrial power plants. It consists of a cylindrical wooden tank 12 ft. in diameter and 10 ft. high. The softening medium, a zeolite sand bed 3 ft. 4 in. thick, rests on a 16-in. deep gravel ballast around and on top of the brass drainage system at the bottom of the tank.

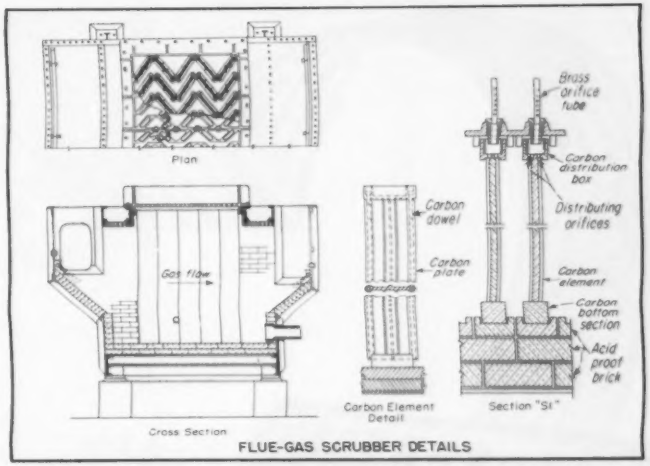

FIG. 2—CARBON BAFFLES were finally used in the flue-gas baffles after other materials failed in a short time.

Raw water enters the unit through an octagonally shaped trough which distributes the water so as to produce an even rate of flow throughout the zeolite bed. Backwashing is effected by reversing the flow through the softener. Backwash water admitted under controlled pressure passes through the drainage system up through the gravel and zeolite beds and is discharged with suspended matter to waste through the distribution trough.

The "Achilles heel" of the softener unit is exposed during the backwashing operations. A surge of water or excessive water pressure resulting from careless opening of backwash-water valve can and frequently does upset the gravel bed and tends to blow holes in the zeolite bed. The resultant uneven flow through the zeolite bed when the unit is returned to service may permit "hard" water to pass the softener and into the boilers. If this condition goes undetected for an appreciable period, hard-scale deposits can be built up in the boilers. The pressure-type softener is even more vulnerable to gravel-bed disturbances, especially because of difficulty in inspection and testing of the condition of its zeolite bed.

A simple but successful corrective measure was effected by installation of an 8x8-mesh, 18-gage copper screen to control movement of the gravel bed. The screen mounted on a supporting framework of brass angles was secured by flat brass strips. The entire structure was secured to the tank sides by a brass ring. Metal parts are insulated by sheet rubber at all points of contact. This alteration to existing units has been successful in preventing gravel-bed disturbances since its installation approximately 14 years ago.

Stainless Steel Solves Coal-Feeder Problem

Availability of new developments in the metallurgical or chemical fields may provide a solution to a troublesome maintenance problem. The coal-feeder system works satisfactorily. Difficulties did, however, develop with wet coal in the pipe between bunker and coal scale and the discharge pipe from the scale.

While the slope of these pipes was initially adequate for positive flow of coal, flow was impeded as corrosion of the steel platework caused a surface roughness. The operators lived with this condition until approximately two years ago when extensive corrosion made replacement of individual feed pipes necessary. Changes in shape of dimensions were either impossible or too costly.

In addition, present-day costs of stainless steel made its use economically possible in this replacement. Its resistance to corrosion from wet and high-sulphur-content coals makes it capable of long life. Its continually smooth surface has served to eliminate the main coal-feeding problem.

Carbon Baffles Resist Acid Corrosion

The flue-gas scrubber as shown above is a good illustration of possibilities for cooperation between manufacturer and operator in meeting

(Continued on page 211)

fine for fancy fabrics

If you are using a reel machine on fancy rayon piece goods, such as upholstery or draperies, you'll find Santomerse No. 1 a hard-working and efficient helper. Santomerse No. 1 has proved itself in numerous textile operations on cottons, synthetic fibers and wool.

Santomerse No. 1, an alkyl aryl sulfonate with a minimum of 40% active ingredient, is the *all-purpose* detergent and wetting agent. It is a highly efficient detergent, a rapid wetter and penetrant, an easy rinser that holds particles of soil and unattached dyestuffs in suspension so they cannot settle on fabrics. It helps avoid crocking and aids in level dyeing.

Santomerse No. 1 is efficient in hard or soft water . . . in hot or cold solutions . . . in acid or alkaline baths. In hard water, anionic Santomerse No. 1 prevents the formation of insoluble metallic soap curds.

For information on the use of Santomerse No. 1 in any textile operation, contact the nearest Monsanto Sales Office or write MONSANTO CHEMICAL COMPANY, Phosphate Division, 1700 South Second Street, St. Louis 4, Missouri.

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Santomerse No. 3 Paste	Sterox CD (Nonfoaming detergent)
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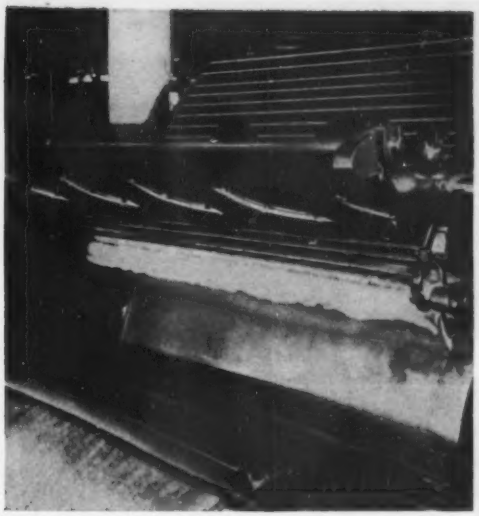

Weight of Individual Strips Removed From Flats

No. of flat from back of card	Weight of strip in grains	Nep and trash count per sq. in. of flat wire
1 (Entering)	10.2	9.6
2	9.7	9.3
3	13.5	–
4	15.5	–
5	17.7	–
6	15.7	–
7	16.7	–
8	15.3	–
9	15.5	21.8
10	18.3	20.7
19	16.9	–
20	19.5	–
29	17.8	–
30	18.7	–
40	19.1	–
41	20.4	21.7
42	19.6	19.1
43 (Leaving)	17.2	23.1
44 (Off bend)	17.3	27.6

Weights and counts taken from same card previous to test were:
Average weight of strips, 18 grains
Average nep and trash count, 24.6 per sq. in. of flat wire

How Much Work Does Each FLAT Do?

An interesting experiment on a cotton card indicates that a flat is loaded with fiber when it reaches the position of the tenth flat, but continues to pick up trash until it leaves the bend.

By E. H. HELLIWELL, *New England Editor, TEXTILE WORLD*

CARDERS HAVE OFTEN WONDERED, as they watched the flats on a cotton card moving slowly from back to front, just how much work each flat does at different points along the flexible bend.

In an attempt to find a partial answer to this question, the following interesting experiment was tried. A regular card running on S.L.M. 1⅛-in. cotton was selected. The cylinder and doffer were stripped out, and the condition of wire and all settings were checked. All flats were set 0.008 in. to cylinder; front plate, 0.029 in. top and bottom; back plate, 0.029 in. top; 0.034 in bottom. The speed of the flats was 3 in. per min.; the cylinder speed was 170 rpm. All other settings were standard. This card was started and permitted to run for 2 hr., midway point of a 4-hr. stripping period, as typical of actual running conditions.

The card was then stopped, and the 44 flats in position over the cylinder were chalk-marked and numbered consecutively from the back to front. The flats were then raised at all five setting points and wound forward. The cylinder was moved by hand in the same direction at the same speed as the flats to keep the flats and cylinder in the same relative position and to prevent any rolling of stock between cylinder and flats.

The strips from each flat were carefully removed and weighed separately. At certain points, the nep and trash counts were taken with the aid of a pick glass.

A partial summary of this test is given in the accompanying table. For the sake of brevity, many of the weights are omitted.

A few valuable conclusions can be reached from this test. Flats, when reaching the position of the tenth flat, contained as much waste by weight as an average of ten strips taken from the same card before the test. The increase in nep and trash count extended to the last flat in position over the cylinder.

The amount of flat strips removed averaged about 3%, which is close to standard for this type of work. Fiber arrays of strips showed 65% fiber and 35% trash. Mean length of the fiber was 0.78 in. Cotton in the lap showed a mean length of 0.83 in.

It is generally assumed that the settings of the back plate, front plate, and screens influence the action of the air currents. The surface speeds of cylinder and lickerin set up centrifugal actions and air currents which affect the position and treatment of the fibers. Closer plate settings, within limits, give a lighter strip. This is said to indicate that these plates limit the action of the air currents in throwing off these fibers in contact with the flat wire. The centrifugal force of the cylinder, for equal weights of stock, remains the same if the cylinder speed is constant.

A close examination made from individual strips indicates that the heavier particles of trash are affected more by this centrifugal action than are the lighter fibers. The individual strips taken off in the experiment show no increase in total weight after the tenth flat, but there is a consistent increase in the proportion of trash up to the last flat in position over the cylinder.

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This test involved the installation of an *Alemite Centralized Lubrication System* on a single mammoth machine. After a month of daily cost checks and comparisons, the system was installed on all five other machines in the plant at a total cost of only $2471. Since that time, there has not been a single break-down or bearing loss, stock spoilage and rejects have been greatly reduced, and lubricant cost has been cut to $1417. Net savings from this company's smart investment: $4247 annually. The net result: more production gained from each machine, marked product improvement, increased customer satisfaction!

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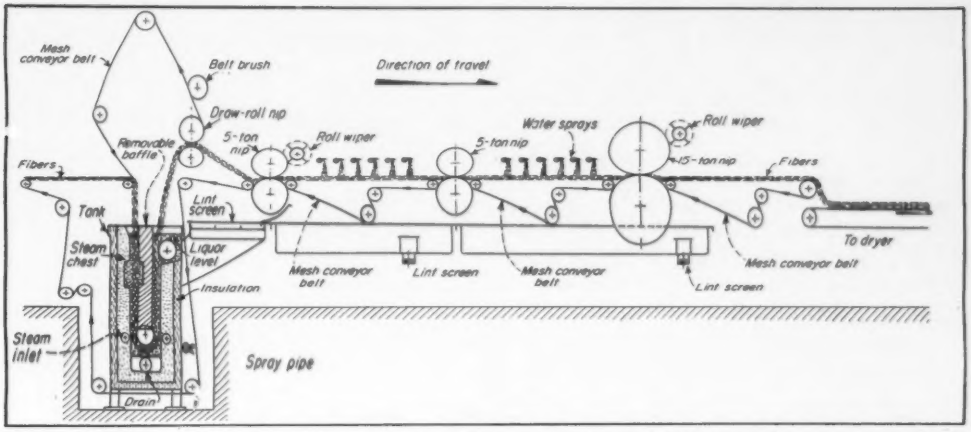
MACHINERY AND SUPPLIES

TEXTILE Equipment NEWS

Machine Dyes or Scours Raw Stock Continuously



FIBER IS CARRIED through the continuous-dyeing machine, shown diagramatically above, sandwiched between the two mesh conveyor belts.

Continuous dyeing or other processing of fibers, stock, or staple can now be accomplished with a new machine developed by General Dyestuff Corp., 435 Hudson St., New York 14, N. Y. Machines will be available through Morrison Machine Co., Paterson, N. J. The equipment is said to be particularly effective in the application of vat and naphthol colors to rayon staple. Contact time of the entering material with the dye liquor is very short, and high-speed operation is claimed.

Whenever a process calls for fairly short exposure of materials to treating solutions, this new machine is considered suitable. Chemical treatment, dyeing, and scouring of wool, as well as of all other fibers, has been accomplished satisfactorily. It is envisioned that bonded fabrics and even cotton warps may eventually be processed.

The machine is so constructed that dyeing time can be varied mechanically from 30 to 90 sec. In addition, with the incorporation of penetrants Nekal NS and Nekal BX High Conc., techniques have been developed which speed up the dyeing operation.

Since the principle of passing a large quantity of goods through a small dye bath, thus using a low liquor ratio, is employed, considerable economy over batch operations is indicated. The bath in the first unit made contains only 35 gal., and it is steam-jacketed and fully insulated to insure low heat consumption. High production rates and low labor costs can be realized with the characteristic continuous, controlled flow of fiber, the company states. Also, power consumption is low.

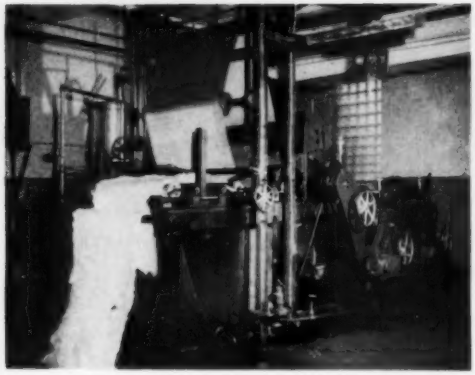
By varying the speed and thickness of the laps or stocks being fed in, close control of fiber-to-bath exposure is obtained. On the present 40-in. machine, it is estimated that capacity can range from 500 to 3,000 lb. per hr. based on top conveyor-belt speed of 33 yd. per min., with 1 to 2 lb. per yard on the conveyor belt.

The machine has an endless chain-link belt of stainless steel. Goods enter in lap or stock form laid evenly on the chain mesh. As the belt goes over a roll to enter the bath vertically, a second belt is used to sandwich the material between the belts. Liquor is said to be able to penetrate freely, with no tension on the goods at any time.

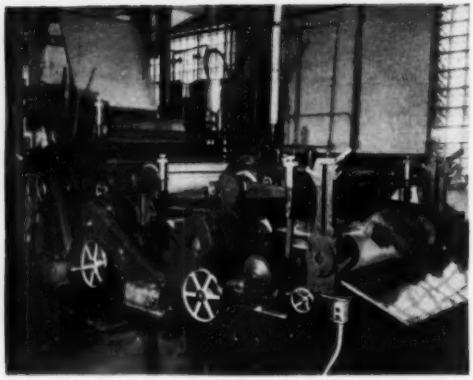
On leaving the bath again vertically, the enmeshed material passes through a light draw-roll nip. As the mesh belts part, the goods are drawn through a 5-ton nip and onto another endless belt which carries the material under several water or chemical sprays. A second spray treatment, identical with the first, follows. Finally, after being drawn through a 15-ton nip, the material is fed to an inspection apron and then by truck or belt to any further process units.

The design of this machine provides for chemical and dye feeds in the usual manner for continuous operation. Conveyors are variable tensionwise so that an allowance can be made for thickness of laps or stocks and for the various types of fibers. All parts of the machine exposed to chemicals can be cleaned easily because of their easy accessibility and stainless-steel construction.

Another advantage claimed for this machine is that preliminary to a full-scale run, as little as ½ lb. of stock may be put through and the results evaluated in less than 5 min. A matching formula can be determined with little expenditure of time and materials.



FEED-END view of experimental model of continuous fiber-dyeing machine shows cotton fiber being fed in lap form to feed rolls and double conveyor belt.



NEAR DELIVERY END, fiber passes through three sets of nip rolls and is fed by conveyor belt to subsequent processes. Processes requiring short exposure to treating solutions can be handled by the machine.

The design is compact. Floor space required is 17x6 ft. for this unit. The machine is, therefore, adaptable to small as well as large plants. These machines can be used in series where complicated procedures are to be carried out.

The following operations can be carried out continuously:

Dyeing of spun and staple-rayon stock and rayon tow with all suitable classes of dyes.

Dyeing of spun and staple Celanese with acetate colors.

Scouring of raw-stock wool.

Dyeing of raw-stock wool with vats.

Dyeing of raw-stock cotton from bales with vat, naphthol, direct, and sulphur dyes.

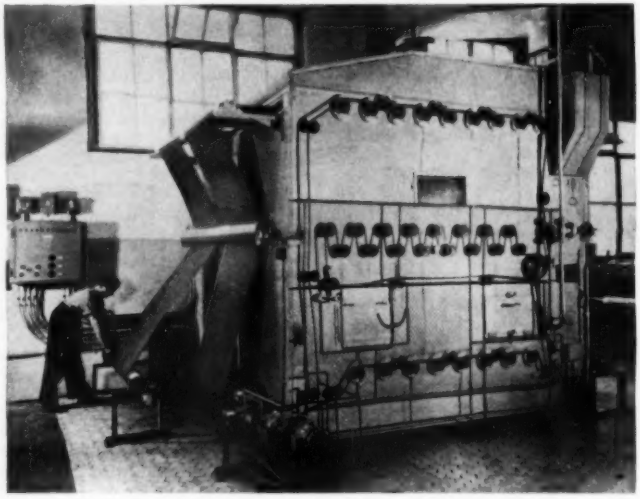
Dyeing of Orlon acrylic fiber with vat colors.

Dyeing of spun and staple nylon with vat and acetate colors.

Dyeing of bonded-fiber webs with vat, naphthol, direct, and sulphur dyes.

Although dyeing studies of all synthetic and natural fibers with all classes of dyes are not yet completely tabulated with processing time, the development is said to be far beyond the initial stages.

Fixation Unit Features Uniform Temperature



UNIFORM HEAT from electric elements and minimum heat losses are claimed for this fixing unit developed in Switzerland. Temperatures run from 80 to 200° C.

A new machine, the Turbofixer, System Neuhaus, for fixation of pigment prints, wash-fast finishes, and resin finishes has been developed by Werner Neuhaus Construction Plant, Burgdorf, Switzerland.

Fabric is conveyed at a constant but adjustable speed through an insulated chamber heated by electric elements to constant temperature. The fabric does not contact the heating elements. Hot air is circulated to submit all parts of the fabric to equal temperature.

If the finish requires acid hardening, acetic acid can be introduced as a vapor into the chamber.

The intensive circulation of heated air is said to eliminate cold layers. Material is conveyed by means of an endless band from a drum on the outer wall of the machine to a winding-up drum. Heating elements and motors are controlled from a switchboard on the outside of the machine.

Electric heating elements are enclosed in corrosion-proof ceramic material. The chamber is lined with stainless steel and heat-reflecting film. All parts are highly insulated against temperature losses. Operation is said to be economical.

The Turbofixer will polymerize and fix dyes and resin finishes at temperatures of from 80° to 200° C.

The machine is available in various models for varying width and production requirements.

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SONOCO breaks another bottleneck

Additional facilities (including a new paper making machine similar to the one above) soon to be in operation will increase Sonoco's raw paper supply by 40%.

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Dependability of service has been largely responsible for SONOCO'S position of leadership the past fifty years; and, today, SONOCO is engaged in a further program of expansion that will insure a continuance of that service.

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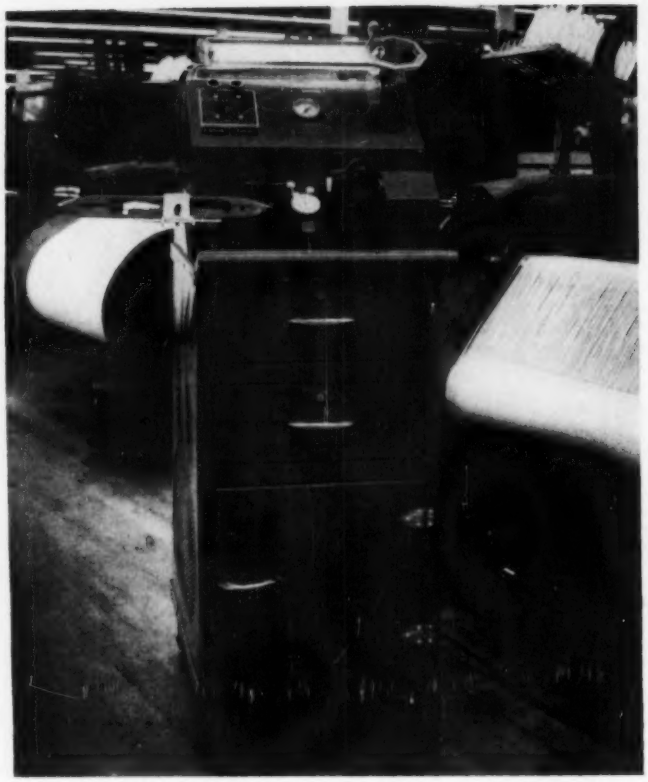
Machine Checks Tension Of Filling Leaving Shuttles

A new machine for testing tension exerted on yarn by shuttles and various tensioning devices has been developed by J. Raymond Fish, Wm. R. Barringer Hotel, Charlotte, N. C. With the new unit, yarn tension build-up caused by changing from one-sized package to another, or by shuttle fur, can be accurately measured. The device is especially helpful in adjusting the set of shuttles used in a box loom so that each exerts the same tension on the yarn. Savings in check straps, pickers, shuttles, and other loom parts are also claimed.

Shuttles in up to 130 single-shuttle looms can be checked per hour, the manufacturer states. The machine is fully portable and can be brought to the looms for checking shuttles.

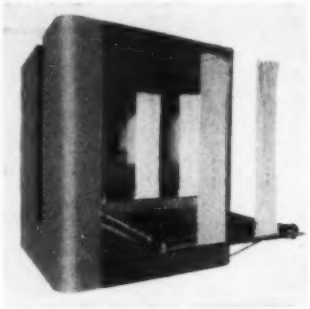
Shuttles are tested by putting a full bobbin into the shuttle, removing the shuttle from the loom, and placing it in the holder on the testing machine. Yarn is passed through a tensometer, between two rollers, and into a suction tube which draws yarn into a waste drawer. Rollers are set to turn at a speed approximating the speed of yarn withdrawal in the loom, and tension is read on the tensometer.

In addition to checking tensions, the machine can be used to evaluate the effect of yarn oils and finishes on shuttle and other-type tensions.



***SHUTTLE-TENSION STANDARDS** can be set and used through use of this testing unit. Up to 130 looms can be checked per hour.*

Compact Dryer Controls Tension



***A PRODUCTION RATE** of 3,000 lb. in 8 hr. is claimed for this new dryer. Heating-up time is said to be 10 min. or less.*

A new dryer, the Geni, that gives high drying efficiency in a small floor space has been developed by Grand Rapids Textile Machinery Co., 1405 S. Division Ave., Grand Rapids, Mich. The dryer occupies a space 8 ft. 6 in. long by 9 ft. wide, and is said to produce as efficiently as units requiring ten times this floor space.

In the new dryer, the moisture in the fabric is raised to a temperature at which it vaporizes before any attempt is made to remove it. This vaporization is done by the use of infrared electric coils or infrared gas burners. This process requires only about 30% of the drying cabinet but is said to do more than 85% of the drying job.

Wet cloth is prepared for drying by wet spreading, which removes the twist and relieves tension lengthwise. The wet fabric then enters the dryer by a wrap around three rolls which tend to feed the cloth without wrinkles.

The variable-speed feed on the entering unit assures feeding of various weights and types of material so that they start without tension. A loosely hung roll, riding on the top of the lower infrared roll, permits visual inspection of fabric.

The fabric wraps almost completely around the two infrared rolls and around the two suction rolls between them. The suction rolls keep the wet fabric completely surrounded by atmosphere of extremely high temperature and pull this air through the fabric, heating it thoroughly. Since little moisture is collected at this point, the hot air is recirculated through the drying cylinders.

The fabric passes through a driver equalizer where tension in any desired amount can be applied. The same equalizer is used when the cloth is lifted from the bottom of the first section of eight rolls to the top of the second section.

Both faces of the fabric, while in a relaxed state, are subjected equally to the blowing and suction of hot air. The damp fabric is dried flat but relaxed and without tension, it is claimed.

The blowers (one on each side) draw air through the heating units in the top section and force it through

Uniform Length

Features like uniform length make Textile Spring-Beard Needles outstanding for superior knitting results. Check two or a hundred Textile Needles and you will find they are exactly the same from butt to beard.

Uniform length is only one of the advantages you get in Textile Spring-Beard Needles. A special steel formula, superior tempering, and Textile's quality controls—automatic and electronic—make the difference in better hosiery fabrics, bigger profits.

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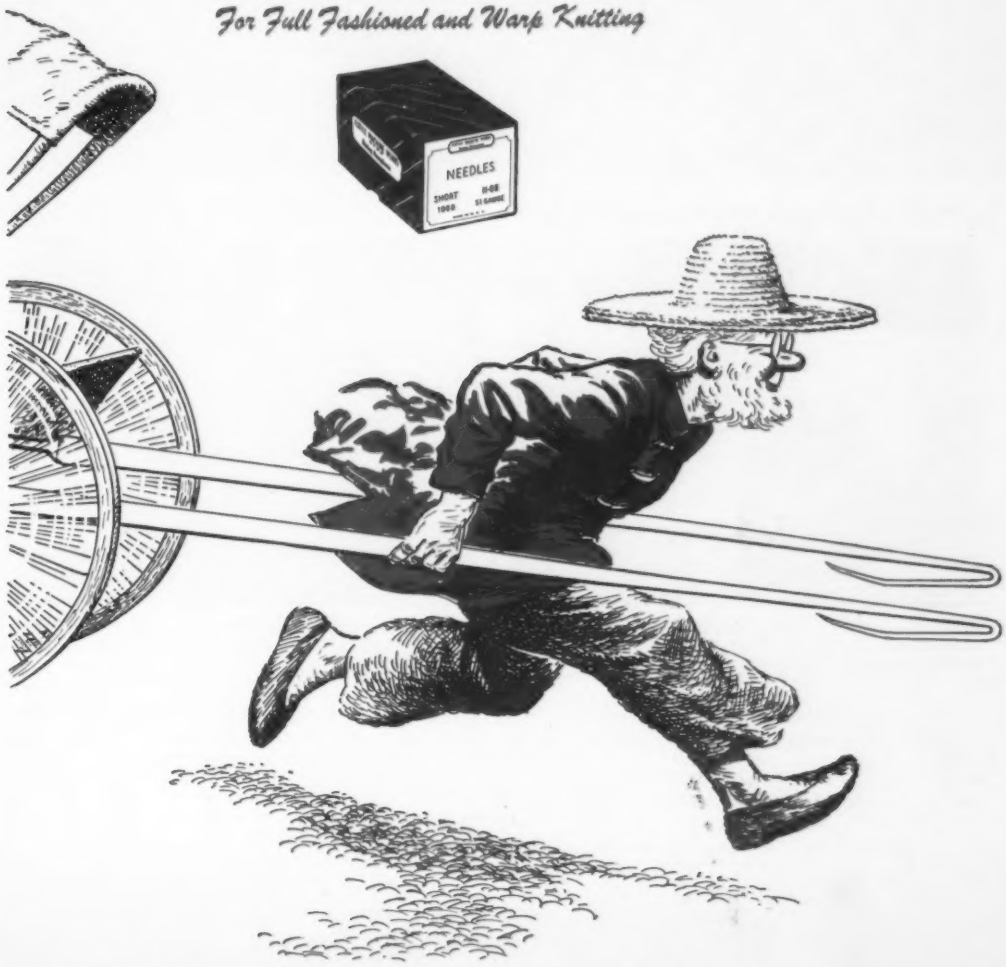
SPRING-BEARD NEEDLES

For Full Fashioned and Warp Knitting



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the fabric carried on the perforated drying cylinders. The blast of hot air must pass through the fabric, because it is confined and directed by stationary sleeves inside the revolving perforated cylinders. The only openings in the sleeves are at the points where the cloth wraps around the perforated cylinders.

A perforated steam cylinder saturates the fabric with live steam and drops it in loops onto a slatted conveyor which carries it the full length of the dryer and out to the finishing unit.

Variable-speed drives are located between the infrared section and first section of eight rolls, and also between the first and second section of eight rolls, and between the second section and steam cylinder. Tension can be indicated, measured, and governed by the variable-speed drives at the two driven equalizers and at the steam cylinder.

Dry cloth emerges from the same end of the dryer into which wet cloth is fed. The dry cloth leaving the dryer can be either rolled or folded, as desired. The desired amount of moisture for final spreading and finishing can be left in the fabric.

Direct finishing on the dryer is possible because the fabric is dried flat, because it is subjected to drying evenly across both faces, and because it can be subjected to live steam before leaving the drying chamber.

Shrinkage control in the dryer is attained by the short path of the cloth which requires very little manipulation or guiding. The cloth is fed into the dryer loosely at a speed which can be varied to suit all types and weights of fabric. Cloth falls from the highest point to the lowest in a relaxed condition. Tension equalizers are driven at two points where cloth must be raised to the high point, and actuate rheostats on the Thymotrol drive to eliminate all tension. Cloth is saturated with steam after drying and then travels the full length of the dryer while relaxed on a slatted conveyor. At the end of the conveyor the cloth is deposited in a scray which actuates a rheostat on the finishing machine to keep the cloth relaxed in loops in the scray.

Cloth leaving the dryer is said to be full and lofty and to have no sharp creases. It is ready for cutting without further steaming or calendering, the manufacturer states.

The machine will dry approximately 3,000 lb. in 8 hr. It is also practical for a smaller mill since it requires 10 min. or less to heat the machine up from room temperature to temperature ready to start drying.

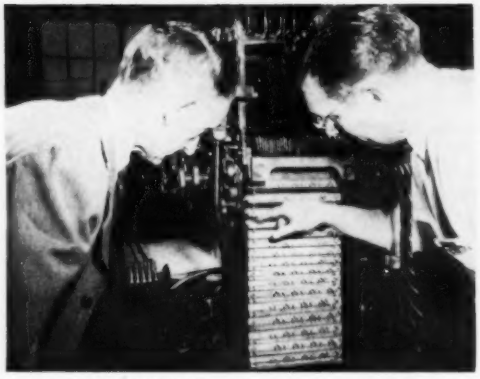
The dryer is also said to enable the user to meet lowest shrinkage specifications when the cloth is prepared for drying by wet spreader and finished on a steaming and calendering machine. It is possible to meet low shrinkage specifications with this dryer as fabric is passed through the dryer with no tension. The machine will dry any fiber, natural or synthetic.

The dryer can be used for heat-setting thermoplastic fabric or finishes, since the temperature of the machine can be raised to 350° F. or higher, as required, without injuring the fiber.

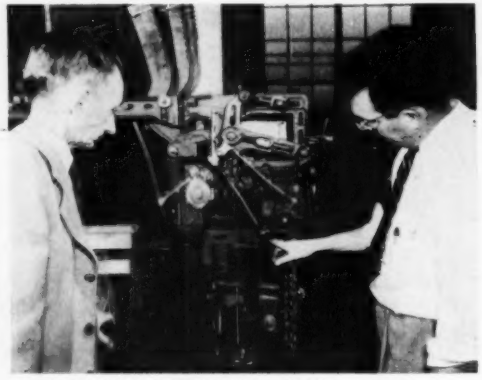
The new machine is said to be ideal as a drying unit in conjunction with the continuous-production system since it is small in size, self-contained, and turns out a high production.

The new dryer is a package unit of three sections and can be set up in a few hours.

Dobby Attachment Eliminates Long Chains



PEGS IN THE DOBBY CHAIN which control movement of the pattern chain are pointed out by Ivey Morris, inventor, to John Folk, principal of N. C. Vocational Textile School.



A DOUBLE-CLOTH WOVEN-DIAPER FABRIC which normally requiries 760 bars is being woven on this loom with a dobby attachment with 38 bars.

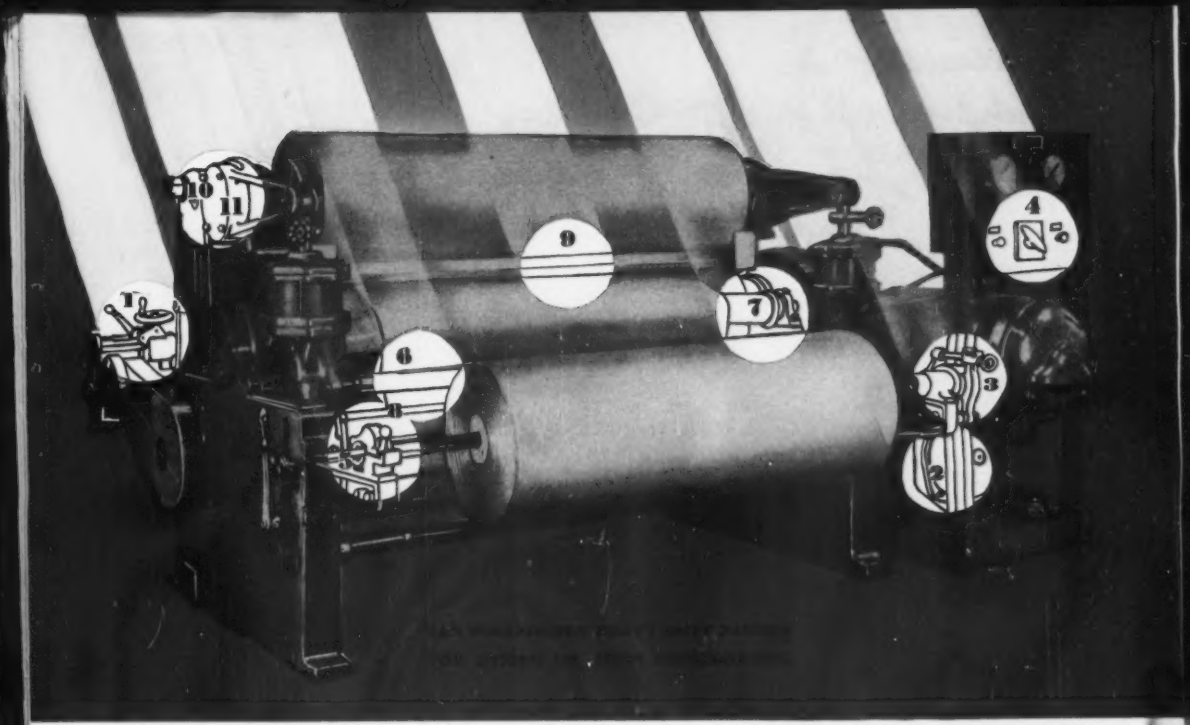
A new dobby attachment that controls the motion of the pattern-chain cylinder and permits shortening of the pattern chain for complicated designs has been developed (patent pending) by Ivey Morris, N. C. Vocational Textile School, Belmont, N. C. The attachment can be seen at the school on request.

The attachment may be useful to mills producing striped fancy-gingham plaids, handkerchiefs, blankets, double-cloth woven diapers, etc. In many cases, a short chain of less than thirty bars can be used to replace a chain of several hundred bars.

The device consists of a cam ratchet and levers which control the motion of the pattern-chain cylinder. The cylinder can be rotated in forward or intermittent motion, oscillated, or stopped in convenient sequence to produce a complicated, long pattern in the cloth with a very few bars.

Advantages of the device are saving of space in the weave room, saving of time in chain preparation, elimination of down time caused by chain troubles, and elimination of complicated adjustments and settings. It can be used on all dobby heads and will not interfere with other motions of the loom. Installation is speedy.

Patents on the new dobby attachment have been applied for by the inventor.



SPOTLIGHT ON SUPERIORITY

Focus your attention on these points of superiority. They will stand out in the light of your experience in processing modern fabrics.

1. It has an entirely new slip clutch take-up. Operates through dual friction plates with sensitive tension control and quick acting engage and disengage lever.

2. Variable speed drive, coupled to worm gear reducer, gives quiet, smooth operation and saves considerable floor space.

3. Malleable iron block brakes have tension indicator for easy reading and brake shoes are independently mounted for smoother action.

4. Pneumatic pressure system controls each cylinder separately, allowing operator to equalize nip pressure.

5. Both let-off and take-up bars have positive center bar locks.

6. All guide rolls are mounted on anti-friction bearings and made of stainless steel.

7. Two rubber covered expanders with sealed ends are provided.

8. The stainless steel pan can be easily and quickly lowered for cleaning.

9. Splash guards and nip guard assure safe, clean operating conditions.

10. Padder rolls are mounted on spherical roller bearings for smooth trouble-free service.

11. Both rolls are easily removed.

VAN VLAANDEREN

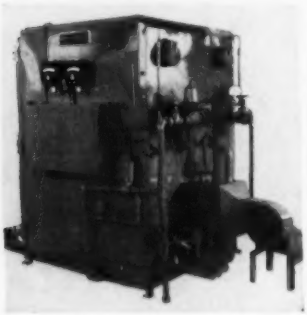
You are invited to see this machine.

MACHINE COMPANY

370 Straight Street, Paterson 3, New Jersey

World's largest manufacturer of textile finishing machinery

Universal Presetter Features High Production



A SATURATED ATMOSPHERE, free of air and free oxygen, as used in this presetting unit, is said to insure uniform dyeing.

A new universal presetting machine that is said to combine speedy, uniform results with complete flexibility for preboarding or one-boarding methods has been developed by Paramount Textile Machinery Co., 131 S. Wabash Ave., Chicago 3, Ill.

The universal presetter can be used for presetting before preboarding, presetting for one-boarding of all nylon stockings, and for drying after presetting.

The machine employs a fully saturated atmosphere with air and free oxygen reduced to the minimum. Uniform dye shades are said to be obtained as a result. Monofilaments preset only once at maximum atmospheric water-vapor temperature (approximately 209 to 212° F.) are said to retain to a marked degree their "as-knit" stitch formation. Seaming is said to be speeded up and snags and pulled threads reduced.

Production rates given for the machine are as follows:

Conditioning nylon before looping and seaming: 180 to 216 doz. pr. per hr.

One presetting (no preboarding required) of monofilament nylons, prior to looping or seaming and before one-boarding of dyed work in retort: 180 to 216 doz. pr. per hr.

One presetting of multifilament nylons, after seaming and before one-boarding of dyed work in retort: 180 doz. pr. per hr.

When treating goods directly from full-fashioned knitting machines, 72 doz. pr. or more may be preset at one time.

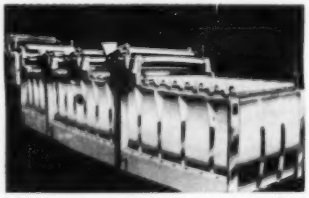
Controls automatically time cycles for both vapor setting and drying. Two new-type atmospheric vents prevent pressure from building up within the cabinet and avoid back-drafts of cooled air detrimental to the presetting operation. Double heating coils and a centrifugal-type fan are used for faster drying.

A large, 1¼-in. inlet steam valve raises the temperature in the cabinet quickly.

A newly developed by-pass steam line, working in conjunction with atmospheric vents, attains a water-vapor atmosphere (at atmospheric boiling-point temperature) and practically eliminates air and its free oxygen. No condensation is caused by cooling-off periods as the Universal machine does not employ on-and-off thermostatic operation when operated at the boiling-point temperature.

The cabinet is shipped complete with all necessary fittings assembled, ready to connect to steam and return lines. Electric accessories are for 110-v., 60-cycle, single-phase, a.c.

Resin-Treated Rayons Washed in Open Width After Curing



OPEN-WIDTH WASHING of spun rayons following curing of resin finishes is said to have produced results equivalent to rope washing in mill tests.

A new application for Tensitrol washers—successful washing of resin-treated rayons after curing—has been announced by Rodney Hunt Machine Co., Orange, Mass. The company states that manufacturers of rayon suitings have found that Tensitrol washers have eliminated all need for rope washing after curing since the fabric can be washed at high speed with full relaxation and top washing efficiency.

One test reported was conducted as follows: A sufficient yardage of spun-rayon shirting was padded with proper chemicals, dried, and cured at the pilot plant of the firm conducting the trials. Half of the fabric was then taken to a rayon-finishing plant where a three-box open-width Tensitrol washer was available. The fabric was washed through this machine with detergent and alkali in the first two boxes and a rinse in the third.

The other half of the fabric was retained at the pilot plant, where it was washed thoroughly in a dye beck in batch form. The two lots of fabric were then subjected to the usual inspection and testing for fabrics of this type, with these results:

1. No tension was apparent on the fabric while running through the washer. The hand of both the dye-beck-washed and the Tensitrol-washed shirting was the same. Working loss in both fabrics was the same.

2. Scorch tests showed no difference in the degree of washing obtained from the standard dye beck and the Tensitrol washer.

3. Shrinkage tests showed that the fabric washed in the Tensitrol washer was as good or better than the fabric which had been beck-washed.

Piece Goods Dyed in Hot Oil in Williams Unit

An entirely new process for dyeing of piece goods in a Williams unit containing hot mineral oil has been announced by General Dyestuff Corp., 435 Hudson St., New York, N. Y. The method is recommended for dyeing with vat and sulphur colors as well as other types of dyestuffs. Compared to the standard method of dyeing in Williams machines, the new method is said to have the following advantages:

More economical handling of short runs

Better shading

Better appearance of dyed material, particularly on low-count constructions

Greater stability of dyestuffs, particularly in the Indanthrene Blue BCS class

Decreased time of development.

The necessity of using two Williams units for reduction and fixation of vat colors and sulphur colors is eliminated

Vat colors are applied by padding, drying the material in a hot flue, passing the cloth through one Williams unit containing caustic soda and hy-

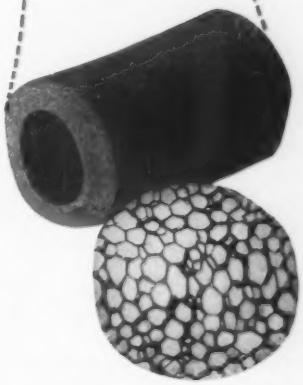
You can't beat this cot for good spinning

Satisfied mill owners using Armstrong's Cork Cots all tell us the same thing . . . cork gives them the most efficient spinning surface they have ever put on their rolls.

They agree that an Armstrong's Cork Cot spins strong, uniform yarn even on the finest counts. It will run for months without slicking and then needs only a light buffing to keep it spinning like new. On most counts and types of yarn, an Armstrong's Cork Cot will last two or more years. During this time, it banishes eyebrows from the frame. For good spinning, there's nothing like it in the opinion of these mill men.

In terms of its spinning qualities, such a cot should be expensive. The truth is an Armstrong's Cork Cot has lowest first cost of any roll cover made today. It saves on roll shop costs, too. It's formed in a seamless tube and preglued at our factory. It slips on the roll in one simple operation.

Try Armstrong's Cork Cots in your own mill. We'll be glad to help you set up a test installation. Just call your Armstrong representative today or write Armstrong Cork Company, Textile Products Department, 8305 Arch Street, Lancaster, Pennsylvania. Available for export.



The secret of cork's fine spinning surface

Here magnified 1200 times are the tiny cork cells that give an Armstrong's Cork Cot its superior high-friction surface. As the yarn passes under the cot, millions of these cork cells act like microscopic suction cups. They keep that firm steady grip so important to top-quality spinning.

ARMSTRONG'S CORK COTS

for high-quality spinning . . . at low cost

drosulphite, and then into a Williams unit containing a white mineral oil at 215° F. The oil absorbed by the cloth is removed by passage through the next unit containing Igepal CA, 5 to 8 lb. per 100 gal. of water at 70 to 80° F. This treatment emulsifies the oil completely, and oil is readily removed from the fabric. The usual finishing operations such as oxidizing, soaping, and rinsing follow.

Initial trials indicate that the drying operation after pigment padding of vat dyestuffs may be eliminated, particularly for light shades on lightweight constructions.

Sulphur colors are applied at 200 to 212° F. from a reduced bath in a two- or three-roll pad. The fabric is then passed directly into a Williams unit containing white mineral oil at 225° F. The oil is then removed by passage through a cold bath containing Igepal CA. The usual finishing operations follow.

The new process is reported to have been used on runs up to 40,000 yd.

pH Meter Is Pocket-Sized, Accurate

ACCURACY to 0.1 pH is claimed for this 3-lb. pocket-sized pH meter. Carrying case is included.

A pocket-sized pH meter and companion probe unit designed to permit instant, on-the-spot pH determinations has been developed by Analytical Measurements, Inc., 585 Main St., Chatham, N. J.

The instrument is furnished completely self-contained with batteries, in a Bakelite case 3x5⅛x2¼ in., with an ever-ready case and with plastic tubes of buffer and KO1 solutions. Total weight is 3 lb. Both waterproof and fungus-proof, the case has a combination hand-and-shoulder strap that allows the instrument to be slung over the shoulder or hung around the neck.

Supports and beakers are eliminated by combining the calomel and glass electrodes with the sample holder in a single polyethylene probe unit. Combining the sample holder with the electrodes (patent pending) is said to completely protect them and to require a sample volume of only 0.5 ml.

The meter is scaled from 2 to 12 pH for easy reading, and a simple adjustment gives readings from 0 to 14. Accuracy of 0.1 pH is claimed. Hearing-aid-type batteries provide up to 1,300 hr. of operation.

All-Bakelite Bobbin Resists Steaming

A new, all-Bakelite twister bobbin designed for high-speed operation has been developed by Allentown Bobbin Works, Allentown, Pa. It is reported that this bobbin can be subjected to frequent steaming without the danger of distortion or change in bore. Made with a Bakelite barrel, Bakelite head, and inset-molded Bakelite bushings, the new Mack bobbin is reported to eliminate completely the need for reboring.

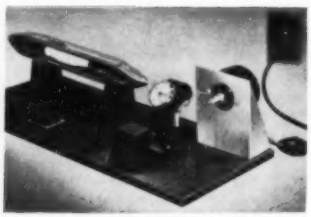
The bobbin is being manufactured with barrels of several wall thicknesses and in a wide range of diameters. Bushings are press fitted and cemented into the barrels.

Nearly a full year of actual mill testing has preceded the introduction of these bobbins, according to the company. So far, according to the company, not one of these bobbins has failed in service, despite deliberate attempts to crush them by excessive tension and lengthy exposure in steaming cabinets.

For greater economy and strength when steaming is not required, this bobbin, with the same basic construction, is supplied as a winder-spinner bobbin with vulcanized-fiber heads. The bobbins can be manufactured with or without felt washers to prevent yarn trapping.

REBORING OF BOBBINS is said to be eliminated by the all-Bakelite construction of the one described here.

Instrument Tests Shuttle Tension



UNIFORM TENSION in all shuttles, an important factor in weaving many such fabrics as fine nylons or those produced on box looms, can be attained by use of this shuttle-tension testing and adjusting device. Tension is indicated in grams.

A new shuttle-tension tester has been developed by Saxl Instrument Co., Harvard, Mass. The new test board is designed to provide a simple means for measuring and adjusting yarn tension as the yarn leaves the shuttle under an equivalent of performance condition.

In operation, a shuttle with quill is put on the stand at the left side of the test board. Yarn coming from the quill is threaded through the rollers of the tension meter. Then yarn is rewound on the axle of a special electric motor at the right side of the board. When the current is switched on, the yarn is pulled out of the shuttle and through the tension meter at the right speed.

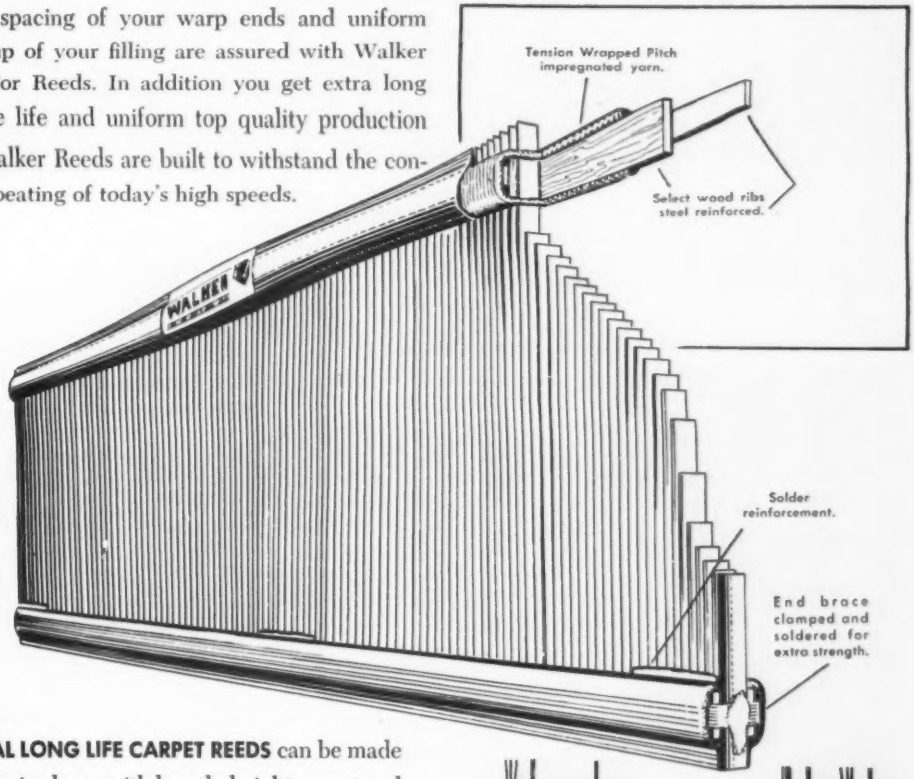
The tension meter shows the tension on the yarn as it leaves the shuttle, in grams. By moving the adjusting device in the shuttle, the quiller or weaver can then make such adjustments to produce uniformly the best tension for each shuttle.

The Saxl shuttle tester is said to be precise and simple. It can operate from a light outlet. The tensometer mounted on the test board is removable, and can be used separately to check the tensions of other yarns in the warper, winder, quiller, slasher, or other yarn-preparatory machines.

WALKER *Superior* REEDS

give you even spacing and uniform beat up . . .
Note these important features

Even spacing of your warp ends and uniform beat up of your filling are assured with Walker Superior Reeds. In addition you get extra long service life and uniform top quality production for Walker Reeds are built to withstand the constant beating of today's high speeds.


Tension Wrapped Pitch impregnated yarn.
Select wood ribs steel reinforced.
WALKER
Solder reinforcement.
End brace clamped and soldered for extra strength.

SPECIAL LONG LIFE CARPET REEDS can be made for any size loom with length, height, count and selvage spacing to suit the weave. We stock ¼" to ⅜" wide dent wire in low carbon, high carbon spring steel and tempered steel. In many cases the latter gives much longer life with less cutting. For extra strength and heavy weaves, solder reinforcement adds still further to reed life.

FLAT OR OVAL DENTS

Made from special steel stock the dent wire is rolled, polished and finished in our own plant to the highest degree of accuracy for either oval or flat dents.

Walker manufactures a complete line of pitch band reeds to your specifications. Write today for the folder describing and illustrating in detail Walker Superior Reeds.

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Molten-Metal Dyeing Machine To Be Made in U. S.

An interim agreement arranged with Standfast Dyers and Printers Ltd., of England, for Rodney Hunt Machine Co., Orange, Mass., to manufacture, for sale in the U. S. and Canada, the molten-metal dyeing machine developed by Standfast has been announced.

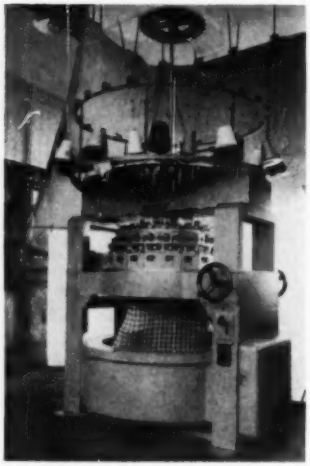
The molten-metal machine is not a laboratory curiosity. The unit has been in production at the plant of Standfast Dyers and Printers Ltd. for several years. [TW, June '50, p. 94; Sept. '47, p. 133]. Better than 10,000,000 yd. of goods have been vat dyed commercially by this process. The claim is made that small or large yardages may be dyed with vat colors with equal facility.

Clean-up time between shades has been reduced with this molten-metal unit to an average of 5 to 10 min. Virtual elimination of end-to-end and side-to-side shading is claimed. The machine provides a continuous vat-dyeing process which is said to be economical for the mill that handles relatively small yardages of any one shade.

The molten-metal dyeing machine is also of interest to the large producer of vat-dyed fabrics. The small dye bath which is utilized (slightly more than 1 gal. of dye liquor for a 60-in. machine) is said to insure even shades throughout a run, regardless of the speed of the machine. The equalization of pressure obtained in the metal unit itself makes possible the continuous vat dyeing of jacquard styles with assurance that both high and low portions of the fabric will be evenly dyed and free from streakiness.

A laboratory model of the machine will also be available that can be used for shade-matching purposes. It is claimed that when shades are matched on this laboratory machine, production batches of the dye liquor may be made to exactly the same proportion of dyestuffs and chemicals per volume of water with assurance that the shade produced by the commercial machine will be the same as that obtained in the laboratory. Naturally, in actual practice, it is advisable to test a sample of the dye bath made up for the production machine on the laboratory machine before going ahead. However, at this point, the dyer may proceed with assurance that the shade produced on the laboratory machine will be matched in production.

New Jacquard Knitter Is Larger, More Flexible



A SELECTOR MECHANISM makes possible production of a wide variety of simple and complicated designs from one stamped steel film.

A new, 30-in.-diameter knitting machine, the Weveknit A-24, has been developed by Dubied Machinery Co., 11-30 45th Rd., Long Island City 1, N. Y.

Frame construction is massive to insure absolute accuracy in the crossing of the needles, a factor in producing fabrics free from irregularities.

The pattern produced on the Weveknit machine is governed by holes punched in a steel tape which passes around the knitting elements. It requires about 3 hr. to stamp one film, depending on the design required.

In the new machine, a selector-wheel mechanism permits rapid changes in fabric design, from elaborate to simple, by use of selected holes punched in the film. Each of the 24 knitting elements is provided with a selector wheel. The selector wheel permits needles to be activated by the steel film or not, as called for by the design. The selector-wheel mechanism thus makes it possible to put a large number of designs on one film and use only one at a time.

The Weaveknit A-24 also delivers solid-color fabrics at speeds up to 10 meters per hr.

Semi-Continuous Crusher Has Pneumatic Control

IMPROVEMENTS in the semi-continuous crusher have been announced by Riggs & Lombard Co., Suffolk St., Lowell, Mass. Top-roll-pressure equipment has been redesigned to give finger-tip pneumatic-pressure control. Greater ease of operation and more uniform pressure from roll to roll are said to result. Exhaust equipment has also been redesigned to effect more complete exhaustion of dust from the inside of the machine so that fabrics come out cleaner than is usually the case.

"Cold" Static Neutralizer Will Not Give Shocks

A new static-electricity neutralizer, said to be very effective and safe, has been developed by Herbert Products, Inc., represented in the U. S. and Canada by American Textile Engineering, Inc., Arlington, N. J. The redesigned device is called the Oxy Neutralizer Cold Bar.

Through special interior construction, the new Cold Bar features intense ionization from its emitter points, but at the same time is said to offer no shock, no sting, and no sparks at these points. The discharge from the emitter points is safe and does not create any sensation of electric shock when touched by hand or otherwise. The safety features of the Neutralizer Cold Bar are said to be 100% complete.

The Neutralizer Cold Bar has an outside tube approximately 1 in. in diameter, with phosphor-bronze spring emitter points, spaced 1 in. apart and projecting from the tube. For machines where material being neutralized might, through slackened tension, fall upon the points or just touch them, a model is available with the points protected by a Lucite shield on

Guaranteed

THE QUALITY OF BOGER & CRAWFORD KNITTING YARN IS GUARANTEED — THE HIGHEST TRIBUTE WE CAN PAY IT.

Signed Frederick Boger

Quality Yarns

. . . A Guarantee That Has Held For 44 Years and

. . . Is Doubly Important In The Present Emergency

Let Boger and Crawford yarns help you produce a product of merit! You are called upon in the National Emergency to do the best possible production, and here Boger and Crawford yarns can help you

With every order you are protected by our guarantee of quality. Industry over the years has constantly used Boger & Crawford's product, and because of the constant accuracy of performance, we are looked upon with confidence.

Specify Boger & Crawford Vitamin "Q"—"Q" for Quality—yarns without delay.

Boger & Crawford

BOGER CITY, N.C. • PHILADELPHIA, PA. • BOSTON, MASS. • CLEVELAND, OHIO

SAFETY TO OPERATORS is stressed in the design of this static-neutralizer bar. Touching the points or connections will not produce a shock, the company states.

each side of the neutralizer bar. The Lucite shields are held in position by substantial Bakelite clamps. The effectiveness in eliminating static electricity is equally well obtained either with the unshielded or shielded neutralizer bar.

The Oxy Neutralizer Cold Bar is energized by high-voltage alternating current from a transformer. Safety considerations have been given utmost importance in the design of the equipment, beginning at the transformer. It is so designed as to have high impedance in order to limit the current flow in the secondary to a value not in excess of 2 M.A. This current is so far below the danger level that even an electrician or mechanic touching the open end of a connected transformer cannot be hurt by the shock.

An important added safety achievement is a connector that cannot expose any electrically "live" connections of the secondary line from the transformer, even though the power cable should be disconnected while the power is on. Operators cannot make any contact with parts of the equipment that could give them a shock.

The manufacturer has designed a

(*Continued on page 226*)

DYES & CHEMICALS

Plasticizer Lengthens Life of Rubber Products

The performance life of all rubber parts and surfaces that have hardened, cracked, and became inelastic with age is said to be greatly prolonged by a rubber plasticizer manufactured by Schwartz Chemical Co., Inc., 326 W. 70th St., New York 23, N. Y. This product is said to actually plasticize the rubber and impart the feel, grip, resilience, and performance of new rubber. It can be applied by cloth or brush to old rubber surfaces.

Called Rub-R-Vive, the plasticizer is already being used successfully by the printing industry. The announcement of its availability is of interest in the face of the increasing importance of rubber to the defense effort and the rigid controls recently clamped on this highly critical material.

Rub-R-Vive is available in pints, quarts, and gallon cans. It is said to be a nonflammable and non-volatile liquid, and has excellent storage life. The manufacturer states that the plasticizer does not evaporate, and one application results in lasting improvement.

New Dyestuff Developed For Nylon and Wool

A new dyestuff, Neutracyl Yellow N, has been developed by E. I. du Pont de Nemours & Co., Inc., Wilmington, Del. This dye introduces fast-to-light reddish-yellow shades for application to both nylon and wool from neutral dyebaths. Neutracyl has a high level of saturation which permits shade build-up at all strengths as self colors or in mixtures with other dyes of the same group. It is said to be a useful shading component when it is combined with either a blue or black of this type to produce durable gray shades.

The manufacturer states that these new dyestuffs have good absorption and exhaust well, in light as well as heavy shades, when they are assisted by a small addition of ammonium acetate to the dyebath.

Light fastness on nylon is said to be superior to that obtainable with any other class of dyes. Neutracyl Yellow N also exhibits very good resistance to washing, perspiration, salt water, fulling, and dry cleaning. It is said to also have good fastness to peroxide bleaching, crocking, sublimation, and Zelan and resin aftertreatments.

The fastness properties of Neutracyl Yellow N on woolens and worsteds are said to be similar to those obtained on nylon. These characteristics are also similar to those derived from the use of Chromacyl colors. The neutral-dyeing properties are said to leave the wool fibers in better physical condition than previous methods employing sulphuric acid.

This dye is said to show very little staining on cotton and synthetic cellulosic fibers. This fact should be of particular interest for neutral dyeing of nylon or wool in nylon-cellulosic and wool-cellulosic unions. It is recommended for products that require very good fastness to light and washing.

Synthetic Surface-Active Agent Unaffected by Hard Water

A synthetic anhydrous non-ionic surface-active agent in liquid form, Igepal CA Extra High Conc., has been developed by General Dyestuff Corp., 435 Hudson St., New York 14, N. Y. This product is said to contain 100% active material; and it serves as a detergent, wetting agent, emulsifying agent, and dispersing agent. Two features of this product are its chemical stability and its retention of activity in the presence of acid and alkali, metallic salts, and very hard water.

Igepal CA Extra High Conc. is said by the manufacturer to have the following properties: ready solubility in water; unaffected by hard water and metallic salts; resistance to acids and alkalis; neutral in reaction; superior detergent and scouring properties for cellulosic, synthetic, and animal fibers; excellent wetting properties; excellent dispersing properties; very good emulsifying properties; cannot form salts; good foaming properties; and excellent chemical stability, including stability in storage.

Chemically, Igepal CA Extra High Conc. is an alkylephenyl ether of a polyethylene glycol. As such it does not contain ionizable radicles and therefore is not an electrolyte. It cannot, in general, form lime soaps or insoluble salts of heavy metals. The manufacturer states that the ready miscibility with water is explainable by its power to form oxonium complexes with water molecules at multiples closely neighboring ether linkages.

New Cellulosic Dye Has Good Light Fastness

A new straight dyestuff recommended primarily for dyeing cotton, rayon, and other cellulosic fibers, known as Fastusol Brown 3RL-CF, has been announced by General Dyestuff Corp., 435 Hudson St., New York 14, N. Y. It produces bright, very reddish shades of brown with very good (6) fastness to light for medium shades on cotton and maximum (8) fastness on rayon.

This shade is said to be relatively as fast in the Fade-Ometer as in sunlight. The light fastness is virtually unaffected by aftertreatment with urea-formaldehyde resin for crease resistance, and it is only slightly affected by aftertreatment with melamine-formaldehyde resin for the same purpose. As is usual for such finishes, resin aftertreatment slightly improves wet fastness.

The fastness to washing and other wet fastness properties of dyeings with this product are said to be appreciably improved by aftertreatment with formaldehyde and acetic acid. The ratings for fastness on cotton are improved by this treatment from poor-to-fair (1-2) to fair-to-good (2-3), and the fastness to washing on rayon goes from fair-to-good (2-3) to good (3).

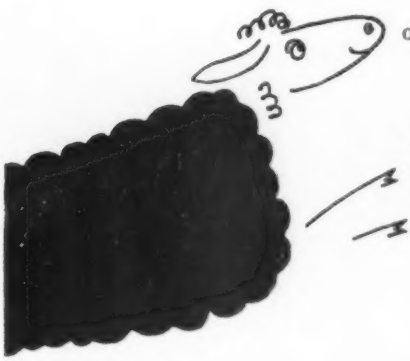
Dyeings from this brown are also said to be valuable for discharge work (3-4). Light shades are dischargeable to a good white, and dyeings of all depths are suitable for colored discharge effects. When dyed in full shades in the presence of effect threads, Fastusol Brown 3RL-CF is said to stain acetate only slightly (4), but stains wool heavily (2).

®ANTHOMINE*

Up go profits! when your woolens go to market and don't come back...

Complaints cost money, whether by converter or consumer! That's why it is profitable to use ANTHOMINE for dyeing wool in any form. You'll get *level shades*, even with "tippy" or blended wool — *increased color yield* — and substantial *reductions in processing time.*

ANTHOMINE has powerful softening properties, leaving the stock, yarn or piece goods with a very desirable hand after dyeing.

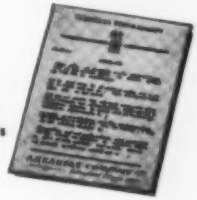


Why not PUT ANTHOMINE TO THE TEST? Let us show you how ANTHOMINE can be used to the fullest advantage in your dyehouse. Mail the coupon below.

Arkansas Co., Inc.
P.O. Box 210
Newark, N. J.

Gentlemen:
Please send me, without obligation:

- ☐ Full details of ANTHOMINE'S benefits
- ☐ Application procedure for all wool dyeing processes
- ☐ Representative to arrange for demonstration



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MANUFACTURERS OF INDUSTRIAL CHEMICALS FOR OVER 45 YEARS
NEWARK, NEW JERSEY

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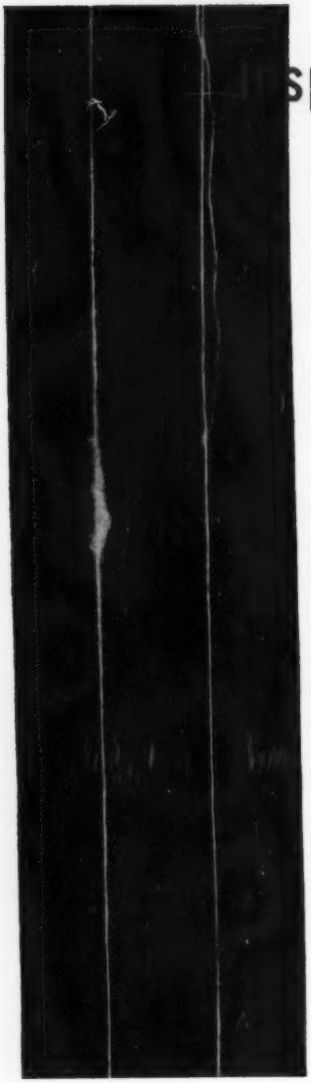
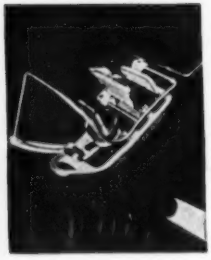


spect in the Singles Ply without Doubling

—when you package your plied yarn on the Universal-Atwood "double-play" combination.

The most efficient method of processing plied yarn is to wind direct from spinning frame bobbins, inspecting the yarn in the singles . . . then ply from cones to large twister bobbins on the ring twister equipped with single end stop motions. This eliminates doubling . . . all work is done at high speed . . . twisting efficiency is improved . . . waste reduced . . . and much better plied yarn is produced.



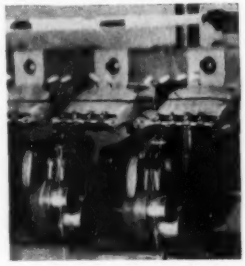
SINGLE END CONING BEFORE TWISTING REMOVES IMPERFECTIONS

On the Universal Roto-Coner*, spun rayons, spun nylons, cottons, worsteds and blends are wound at high speed, while efficient slub catchers — uniformly set and *locked* in position—remove slubs and other imperfections in the singles. The large cones are then used as overend supply for the ring twister.

SINGLE END STOP MOTIONS ELIMINATE DROP PLY

On the Atwood Model 10 Ring Twister, there is an automatic stop motion for each end in the ply. It is located *above the feed rolls*. Whenever a break or runout occurs, the spindle and feed rolls stop *instantly* and the end is caught before it reaches the feed rolls. Thus—drop ply *cannot* get into the package; nor can roller laps occur. Also—ends are tied in the singles *before* twist is inserted, resulting in smaller, less troublesome knots.

*Reg. U. S. Pat. Off.



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Winding and Twisting Machinery for Natural and Synthetic Yarns

ROTO-CONER* *the textile winder with the rotary traverse* | **MODEL 10** *automatic stop motion for each end and ply*

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LETTERS FROM OUR READERS

Address all communications to:
Editor, *Round Table*, TEXTILE WORLD
330 West 42nd Street, New York 18, N. Y.

Round Table

BALANCED FABRIC

Dear Editor:

In your February issue, page 210, you printed a letter in your *Questions and Answers* column entitled "Loose Worsted Cloth Tends to Wrinkle." The writer states that the cloth is made from 2/40 warp and 1/20 filling and that it wrinkles very quickly in hot, dry summer weather.

I believe the difficulty arises, not because the fabric is too loose, but because of the unbalance in yarn twists. In fact, the changes that you recommend will tend to aggravate the difficulty.

To obtain a flat fabric, you must balance the twist used in the warp with the twist used in the filling.

Since a two-ply yarn is used in the warp, the effective twist in the warp is very low. Therefore, the effective twist in the filling must be kept low. This task can be accomplished by the use of a two-ply yarn in filling; or if a single yarn is desired, it must be woven with alternating picks of Z- and S-twist yarns.

NEAL TRUSLOW
U. S. Rubber Co.
Winnsboro, S. C.

RUBBER-YARN STRETCH

Dear Editor:

In your March issue, page 202, you have a subscriber inquiring about some differences in rubber-yarn stretch.

As my experience covers a 30-year association with elastics and covered-rubber manufacturing, I feel that possibly my knowledge could be of some help to your subscriber. I would be glad to respond to any questions from your correspondent or others on this subject.

TEXTILE WORLD has published some articles written by me on the analysis of covered rubber threads. One, dated Nov., 1944, on page 139, might be worth the questioner's looking into.

WARREN A. JOHNS
Waterdown, Ont., Canada

LICKERIN SETTING

Dear Editor:

My attention has often been called to the injury that is caused to the cylinder and flat wire of a card by improper setting of the lickerin to the feed plate. Many carders claim that this setting should vary with the card production.

Settings of 0.012 in. are common. Such a wide setting permits pieces of tags, string, jute, and hard strands of other foreign material to come into contact with the cylinder. These foreign particles cause blisters that dip into the flats and face the flat wire. The faced streaks on the flats are clearly visible, and the comb and spiral brush cannot strip the waste from them.

Wide lickerin-to-feed-plate settings also permit the sudden plucking of cotton in clusters from the feed plate. Plucking causes the same trouble as a loaded card, as these clusters of fibers ball up slightly and cause neps. Under such conditions, close flat-to-cylinder settings cannot be made with raised clothing or faced wire.

Settings as close as 0.005 in. for lickerin-to-feed-plate setting can be made with good results if the nose of the feed plate is correct for the length of staple being run. This close setting may not improve yarn strength, but it will protect the cylinder and flat wire from injury and permit a closer setting between cylinder and flats. Thus, fewer neps will result.

I have found in 50 years of experience that close lickerin settings often save the cost of redrawing cylinder fillets. A blocked lickerin is to be preferred to injured card clothing.

WILLIAM SHAW
Providence, R. I.

MORALE-BUILDING TOURS

Dear Editor:

"A trip through the mill" has become a deep-rooted custom. While management may dislike what it does to routine, the advantages cannot be overlooked when considered as a mark of courtesy to visitors, good public relations for the press, and co-operation with specialists.

But isn't the foreman or other guide

TEXTILE TICKLES . . . . . By Edgar Allen, Jr.

"It's Gypsie Rose Lee . . . she challenges us!"

passing up equally excellent opportunities to create good employee relations at the same time? It's so easy to drop those casual remarks that mean so much to the worker: "This man is one of our most skilled operators," or "John here has one of the longest records of employment in the mill," or "You wouldn't think, to watch the speed of this fellow, that he found time to work out three suggestions that we were able to use during the past year."

The visitor smiles and passes on. But the employee doesn't forget that someone above him in authority has praised him in front of strangers. I believe it was Mark Twain who once said he could live three months on a good compliment. It's a wonder more people do not keep that formula in mind in their relations with their help.

Mill visiting need not be encouraged; yet it cannot be entirely eliminated. And the foreman or higher-up who accompanies the visitor and hands out an occasional sincere compliment on his tour has found a way to make the results pay well for the time and effort spent on the tour.

GEORGE M. DODSON
Harrisburg, Pa.

WEAVE DIFFERENCES

Dear Editor:

Your readers may be interested in one definition of the inherent difference in the three basic weaves: plain, twill, and satin.

1. **Plain weave**—The face and back of the fabric are always alike.

2. **Twill weave**—(a) The face and back of the fabric can be alike.

(b) The face and back of the fabric can be different.

3. **Satin weave**—The face and back of the fabric are always different.

MAX STEINER
Owens-Corning Fiberglas Corp.
Ashton, R. I.

NEW KNITTING YARN

Dear Editor:

As you may have learned from reports from abroad, Grafberger Bros., Bayreuth, Germany, has succeeded in developing a new (patent-pending) knitting wool made from a blend of angora and Perlon. First experiments on a large scale have been carried through.

The new wool yarn is firmer, softer, and lighter than usual wool yarns; and, in addition, it does not felt. A special softening material has been developed at the carded-yarn spinning plant of the firm. The new blend has already been dyed in 25 different shades of color.

At the Technical Fair to be held at Hannover, Germany, from April 28 to May 8, equipment will be set up for running the new blended knitting yarn during the whole time of the exhibition. We suppose this information will be of interest to you and your readers.

ERNST WIESNAGROTZKI
Memmingen, Bavaria, Germany

TEST YOUR TEXTILE IQ

▶ **Each correct answer rates 10 points. A total of 70 is passing; 80, good; 90, excellent; 100—you're a genius! Key to answers is on page 190.**

1. Fabric was first woven in Puerto Rico in:
   a. 1920 c. 1943
   b. 1937 d. 1949
2. In comparison with skein dyeing, cake dyeing is less expensive by:
   a. 2¢ per lb. c. 11¾¢ per lb.
   b. 27¢ per lb. d. 47¢ per lb.
3. The Centralograph is a new instrument designed to:
   a. control evenness c. size yarns
   b. help make timestudies d. check machine speeds
4. Combed 3-in., 1- to 1½-den. viscose rayon yarns are being spun as fine as:
   a. 50s c. 100s
   b. 75s d. 150s
5. It is advisable for a mill to handle, store, and ship nylon yarn on:
   a. skeins c. tubes
   b. cones d. bobbins
6. Courses per inch affect shrinkage of rib-knit fabrics. Shrinkage at 35 courses per inch is 16%; at 25 courses, it would likely be:
   a. 50% c. 15%
   b. 25% d. 5%
7. The Fire Protection Institute reports that in 1949 the number of textile fires reported exceeded:
   a. 4,000 c. 40,000
   b. 10,000 d. 100,000
8. The new Ambler Superdraft system is designed to draft from:
   a. 10 to 40 c. 20 to 200
   b. 15 to 100 d. 40 to 400
9. The Supreme model-SR rib-knitting machine has a production rate at 100% efficiency of about:
   a. 12 yd. per hr. c. 20 yd. per hr.
   b. 54 yd. per hr. d. 32 yd. per hr.
10. The minimum wage for textile workers in Puerto Rico is:
    a. 6¢ per hr. c. 52¢ per hr.
    b. 30¢ per hr. d. 75¢ per hr.

NEW EQUIPMENT NEEDED

Dear Editor:

It was only a few years ago that one of the largest plants in this area went out of business. The machinery in this plant was over 50 years old.

There is a firmly held idea in the minds of many mill managers that if machinery shows little wear, it is a saving to the mill not to replace it with new. There is no doubt that these men are honest, and the only reason that can be offered for their holding such an idea lies in the fact that they have not had enough practical experience. The practical man is quick to replace old-type machinery with new, simply because he knows that in a very short time the initial cost of the change will be repaid in extra quality and quantity.

An outworn idea or machine must be pushed aside by the new one; it is the law of compensation. Mills that ignore modern equipment are on the road to liquidation.

NEW ENGLANDER
Providence, R. I.

MANPOWER-USE RECORDS

Dear Editor:

It is very important for employers to understand the exemption requirement provided for supervisors in the revised Federal Wage-Hour Law.

Mill men should ask themselves the following questions: (1) Do my supervisors understand the rules and regulations? (2) Are they taking advantage of the exemption provision that qualifies supervisors for an executive or administrative position? (3) Are our records accurate and complete so as to substantiate claims?

Since the enactment of the Defense Production Act of 1950, many mills are working on government contracts. The Walsh-Healey Act applies to manufacturers and furnishers of materials, supplies, and equipment in any amount in excess of $10,000.

Wage-Hour inspectors—some 2,000 of them—will soon be making extensive investigations for compliance not only of the Fair Labor Standards Amendments of 1949 and the Walsh-Healey Act, but also for wage stabilization, just as they did during World War II when the Wage Stabilization Board was operative.

As a former law-enforcement agent (wage-hour inspector) I believe it is to the advantage of mill management to "audit" their operation under applicable regulations, and above all to keep accurate and adequate records to back up their compliance status and possibly preclude costly violations.

In other words, the only way mill management can prove compliance is to periodically check its own records. After all, a government auditor's first contact with mill management is through an examination of the record.

ROBLEY D. STEVENS, J. D.
Washington, D. C.

Exploring

THE TEXTILE COMMUNITY

By MILDRED BARNWELL ANDREWS

The COMPANY PAPER— It Makes or Breaks Community Spirit

MILDRED ANDREWS

GOING AROUND from one textile community to another, I have become a collector of company newspapers. Not long ago I just had to unload my collection because the rear springs of my car were sagging under the weight of the printed word. But no true and ardent collector would think of dumping his collection without going through it to salvage the best, to examine at leisure, to weigh the merits of each item by all available standards. I know, because I collect antiques too. This time I spread all my newspapers out and proceeded to analyze each one with care and with an eye to "good," "bad," and "indifferent."

Why a Company Paper?

The object of a plant publication is to bring about better community understanding through its news columns. It should wield great influence in shaping the pattern of community life in work, in play, in thought, and in interest and action. It costs just as much to publish a punk paper as it does to publish a humdinger. And a poorly edited plant paper can cost a company far more in loss of community spirit than in the loss of actual dollars and cents expended in the operation. *In other words, no paper at all is better than a poor paper.*

A poor paper is like a watch with its mainspring broken. It is still a watch, but because it doesn't tick it is no good as a watch. I patiently read and re-read these papers trying to see just what it was that made some tick and kept some others from ticking.

What Makes a Good Paper?

One of the best newspapers for a textile community is published in a small Southern town. It would be a good newspaper in any town. It looks like a newspaper, feels like a newspaper, reads like a newspaper. It is printed on regular newsprint stock, tabloid in size, carries 16 pages. It is a real paper, put out by a cracker-jack good editor who obviously knows his business, his community, and his readers. To all appearances the company, as far as the newspaper layout is concerned, is anonymous. The first page of the paper presents a good digest of the national and international news. Then it presents in detail vital news of the little community, and adds a calendar of local events for the coming week.

Throughout the following pages are found other current news items, space devoted to personal and social news, an obituary column, book reviews of current best sellers, movie criticisms, and the week's Bible lessons. It has an excellent editorial page with editorials on national and local matters. It carries a good sports section with national and local sports news. It carries advertisements of local merchants so its readers may know where to shop to best advantage, and it has a classified-ad column. This one is a people's paper. It is published by the company as a newspaper for the people who work and live in the community. That is its purpose and its only purpose, and it is a very good paper for that reason.

What Makes a Poor Paper?

There are many, many others, however, which take just as much time to read, but which give the reader very little for the time devoted to the effort. Some are too dressy with fancy slick paper and not enough real stuff printed on it. Some have good material but are poorly laid out. A few papers have defects which could easily be avoided. For example, one had become dominated by the editor's desire to flatter the boss, and in a single issue five different pictures of the boss were shown on four pages. Comment penciled in when I was at the mill was "John Smith of the card room said he did not have to read about his boss in the paper to know what kind of a man he was." Another paper was too patronizing in its tone although the masthead stated it was "edited by all employees of the mill."

Another paper devoted the entire front page to columns on company policy and regulations. That made it just a book of rules, not a newspaper in any sense of the word. Another paper provided rather interesting reading, but it was really advertising its company to its own people and did not tell the workers anything they did not already know. Comment in the margin on that one was "Bill Jones says, sure we know all that—we work here." Another paper depended entirely on reprints of the type of propaganda which in a company-sponsored paper seemed not only inappropriate but conducive to the undermining of employee morale.

It is not easy to edit a newspaper. And one cannot always blame the editor. Plant papers have become increasingly popular during the last few years. But papers are too often started with too little forethought. The executive officer of the mill may see one of the better plant papers and say to his staff, "This is mighty good. We ought to have one for our people." Then someone who is not too busy at his job is given the additional job of being editor of the paper. And the company has a paper. But being a good editor is a full-time job and it takes special training and real editorial ability in addition to hard work and plenty of assistance.

Pointers FOR SUPERVISORS

How the Management Team Can Build Better Human Relations

Analyze Your Employees' EFFICIENCY PROBLEMS

If the efficiency of individual employees in your department is falling below standard, how do you handle the problem? Simply bringing the matter to the worker's attention often isn't enough. Try making an analysis of his difficulties and giving him some constructive ideas to work on.

By JAMES GARDNER
Assistant Director of Personnel Research, Fieldcrest Mills

FOREMEN HAVE FREQUENT OCCASION to consult with individual employees about the necessity for improvement in the employee's job performance.

The employee may be a trainee whose progress is slow. Or he may be an experienced employee who is having difficulty in meeting quality, efficiency, or waste standards, or in mastering a change in work methods. In any case, the supervisor faces the task of bringing the employee's job performance up to an acceptable level. Somewhere along the line the supervisor gets into a face-to-face discussion with the employee on the matter.

Don't just tell him his efficiency is low. Recently, there have been efforts to give some definite structure to these discussions. The recommended procedure is first to pat the employee on the back for the good aspects of his job performance, then to point out his weaknesses, then to work out, with the employee's help, a plan for correcting the weaknesses, and finally to repeat his strong points and send him happily on his way.

This procedure, if properly used, can be effective. It lets the employee know how he is doing, allows him some measure of participation, and preserves his self respect. All these are cardinal points of motivation.

However, in practice, the procedure can degenerate into a short monologue by the foreman which goes something like this:

"Joe, your quality is good, but the efficiency of your loom set almost always runs below standard. Why don't you look after that efficiency and bring it up? You're doing all right otherwise, so let's see what you can do about your efficiency."

So Joe goes back to his job with the knowledge (which may be no news to him) that his efficiency is below standard. But he still has no idea of what he can do to improve his effectiveness. Consequently, he cannot be expected to improve it.

Help him do something about it. The point is that knowledge of progress is not an adequate spur to better job performance unless it is accompanied by precise and definite information on methods by which improvement can be achieved.

It is usually assumed that an employee, in a discussion of progress with his supervisor, can work out his own steps for overcoming his weaknesses. If this happens, the solution to the problem may be readily at hand. The corrective action may then be carried forward with better motivation than similar action imposed on the worker by the foreman.

But often a worker is unaware of the precise source of his difficulties. He can't intelligently plan any corrective measures because he doesn't really know what particular work routines, habits, or methods are interfering with his progress. He is often in a poor position to analyze his own troubles.

Since the employee, without such an analysis, is forced into trial-and-error efforts at improvement, supervision must make the analysis, or at least assist with it. The analysis requires observation of the employee in the performance of his job. Sometimes a cursory observation will uncover the major sources of weakness. More often, a thorough and systematic observation is required.

One good tool to use in the analysis is a job breakdown or a job-methods breakdown. This can be used as a check list against which to compare the actual methods and practices used by the employee.

Armed with the data collected in such an analysis, the foreman is then in a position to tell the employee exactly what his difficulties are and what changes he should make to correct them. The discussion is then likely to be fruitful since it gives the worker something definite he can carry away with him and work on. Follow-up, of course, is needed, but the employee is no longer left thrashing around in the dark.

To be of maximum value, a discussion with an employee concerning his job performance requires facts and recommended solutions. An analysis of the employee's job performance is a necessary preparatory step—and one which is often neglected.

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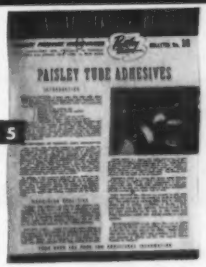

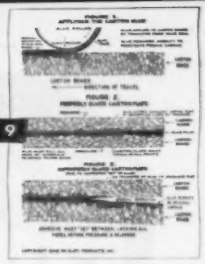

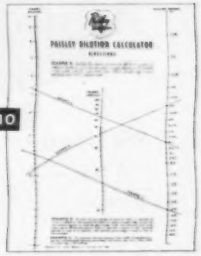

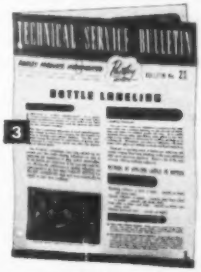

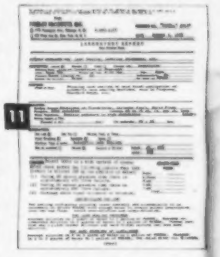

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- ☐ 1. 6-page General Adhesive Folder
- ☐ 2. Can Labeling Bulletin
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- ☐ 6. Shipping Case Sealing Bulletin
- ☐ 7. Flat-Tack Set Up Box Glue Bulletin
- ☐ 8. Cooler-Proof Bottle Glue Bulletin
- ☐ 9. Carton Glue Application Chart
- ☐ 10. Dilution Calculator
- ☐ 11. Laboratory Report on the Following Type of Adhesive _____
- ☐ 12. Adhesive Operation Data Sheet (You fill in and return for laboratory recommendations).

PAISLEY PRODUCTS INC., 1770 Canalport Ave., Chicago 16, Illinois

Name _____ Title _____

Company _____

Address _____

City _____ Zone _____ State _____

PAISLEY PRODUCTS INCORPORATED

DIVISION OF

MORNINGSTAR, NICOL

Manufacturers of Glues · Pastes · Resin Adhesives · Cements and related Chemical Products

Kinks AND SHORT-CUTS

We Sharpen Our Skewers on an Emery Wheel

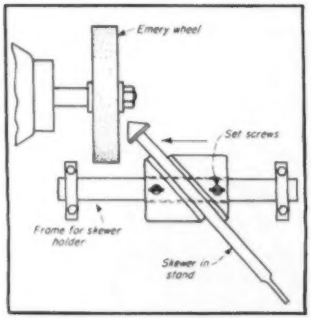
In many mills, skewers are damaged or ruined when the frame tenders try to sharpen them with a knife. A much better and quicker job can be done with an emery wheel.

We made a stand to hold the skewer so that we can give the correct point to all skewers. The skewer is placed in the stand and is brought into contact with the revolving emery wheel.

Only a light grinding is needed to sharpen the skewers. You get no wasteful cutting away of the tip. The angle of the stand can be adjusted by the two setscrews to give uniform points on all skewers. The width of the slot can also be adjusted to take care of any barrel diameter of the skewers, which often vary in size.

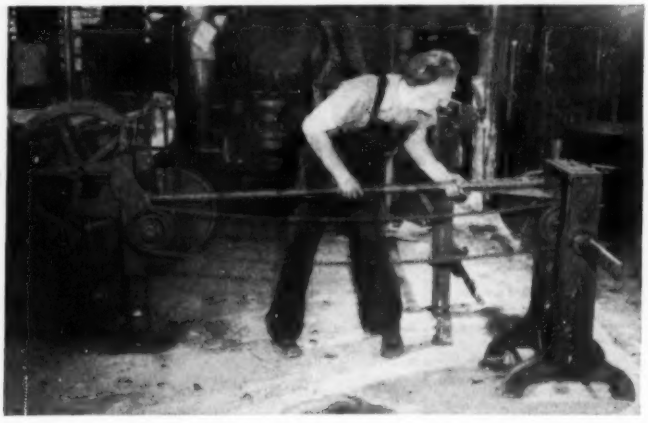
A good plan is to replace all worn skewers when the frames are scoured. In this way, you avoid the random replacement of skewers and keep the frame tenders from trying to sharpen them with a knife. A frame tender will seldom give any attention to skewers until an end has broken back several times.

Another good plan is to keep a supply of new or sharpened skewers available to the frame tenders at all times. They should be forbidden to sharpen their own skewers. Whichever plan is followed, a simple device like this grinder will help to keep all skewers in good running condition at all times.



WE MADE THIS STAND to hold a skewer while we sharpen it with an emery wheel. The angle of the stand can be adjusted to give a uniform point on all skewers. The width of the slot can be adjusted to take care of any diameter of skewer barrel.

We Widened Our Slasher With an Old Beamer Head



AN OLD BEAMER HEAD is connected to the slasher when we want to run extra-wide warps. The width that we can handle is almost unlimited because we have an adjustable spindle for the beam on the driven side.

The device will handle 26-in.-diameter beams. It is connected to the slasher by a chain, as shown in the picture. The bar that the slasher tender is shown putting into position helps to hold the beam heads securely. Jack Whitesides, Gastonia, N. C.

Best-Kink Award For March

Each month TEXTILE WORLD awards $25 to the submitter of the kink which is judged by a panel of over 200 practical mill men as the best for that particular month. A new batch of kinks appears each month, and a new group of readers acts as judges each month.

If you are asked to judge one of these days, be sure to help select the best kink by sending back your answer in time for final tabulation. Closing date for judging is the last day of the month in which the kink appears.

The best kink for March, according to TEXTILE WORLD reader-judges, was:

"This Machine Removes Labels From Cones"

E. Dalton White
Atlanta, Ga.

Mr. White is being sent a check for $25 with the compliments of TEXTILE WORLD.

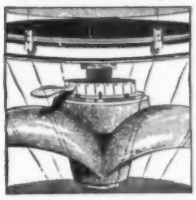
Knitting News

SUPREME ANNOUNCES NEW SUPER-RIBBER

NEW SUPREME RIBBER UTILIZES LATEST TECHNICAL ADVANCES TO GIVE TREMENDOUS PRODUCTION AND QUALITY BONUS

Before buying his next machine, the ribbed cloth knitter should see how Supreme's new machine, the Model SR, will improve quality and increase production. Some of the advantages and mechanical features which make this machine an outstanding production unit are listed below.

Some Of The Model SR's Design Features And Exclusive Knitting Advantages

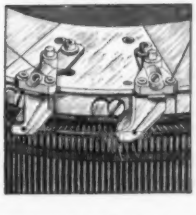


1. A single action, micromatic, dial-elevating and lowering adjustment gives the knitter accurate and uniform stitch adjustment at the flip of a finger. Knit as tight or loose a stitch as desired.

2. Sturdy, dogless, tripod construction eliminates pinch lines and insures positive alignment of all elements at all times. Simplified and instantaneous synchronization of dial to cylinder needles.

3. An exclusive, new, simple method for speedily converting from plain to swiss rib.

4. Individual, channeled cams of substantial thickness lock needles in proper position at all times and eliminate possibilities of smash-ups. The knitter can remove a section for inspection and cleaning and replace it without having to realign needles by hand. The thickness of the cams provides large bearing surface for long wear, permits easier cleaning and assures less accumulation of dirt and lint.



5. Large open areas around cylinder and dial assure easy cleaning, inspection and maintenance. Greater space between knitting feeds allows quick and easy access to cloth and needles at knitting level for simple pick-up and cleaning.

6. The SR can knit a wide range and variety of yarns from extremely coarse to extremely fine with uniform quality and with a minimum of adjustments. Weak or slubbed yarns will not cause damages or interrupt production.

7. Produces cloth of high elasticity. This assures better shape retention after processing and subsequent washings.

8. Automatic control insures uniform cloth roll size. Machine stops automatically when predetermined roll size is completed.

9. Roller bearing thrust for entire center drive. Overhead gear-driven dial with center spindle of special alloy steel, hardened and ground for long wear and trouble-free operation.

The New Supreme Model SR will be available in the following sizes:

7"—10 Feeds	14"—20 Feeds	21"—30 Feeds
8"—12 Feeds	15"—22 Feeds	22"—32 Feeds
9"—12 Feeds	16"—24 Feeds	23"—34 Feeds
10"—14 Feeds	17"—24 Feeds	24"—36 Feeds
11"—16 Feeds	18"—26 Feeds	26"—38 Feeds
12"—18 Feeds	19"—28 Feeds	28"—42 Feeds
13"—18 Feeds	20"—30 Feeds	30"—44 Feeds

Supreme's Proven-In-Use Features Help Give New Ribber 32 Yard Per Hour Output Rate At 100% Efficiency

Supreme's entirely new line of high-speed circular rib knitting machines includes many of the revolutionary production-improving features which have made Supreme's circular jersey machines so successful.

These production-boosting features include:

● *Stationary Yarn Stand* – Permits greater RPM of the cylinder, dial and knitting elements system; lets the knitter use double cone system with "pig-tail" double tieups. Assures faster stopping and starting . . . greater safety and efficiency.

● *Revolving, Floating Take-Up and Roll-Up*—Interwinding, roller-bearing supported. Uniform tension assures large, even and compact cloth rolls. Independent support prevents wear on cylinder and outer ring.

Two of the many types of ribbed fabric for underwear and outerwear that can be produced on the Model SR. Shown above is the 21"-30 feed Model SR.

● *Unit Motor Drive* – Rugged, smooth-running. Patented multi-disc clutch gives almost instant start and stop. No slippage. Smooth, silent chain drive unaffected by lint or dust. SK-139

Write for further information and free cloth samples or ask for a factory demonstration of new Supreme SR.

Knitters who want to see the SR in action can do so by making an appointment to come to Supreme's plant. Simply write, wire or phone to let Supreme know when it will be convenient for you to come, and an appointment will be arranged.

SUPREME
KNITTING MACHINE CO., INC.
107 JOHNSON AVE. BROOKLYN 6, NEW YORK, N. Y.

Kinks AND SHORT-CUTS

For Warp Knitting—Feed Selvage Yarns From Spools

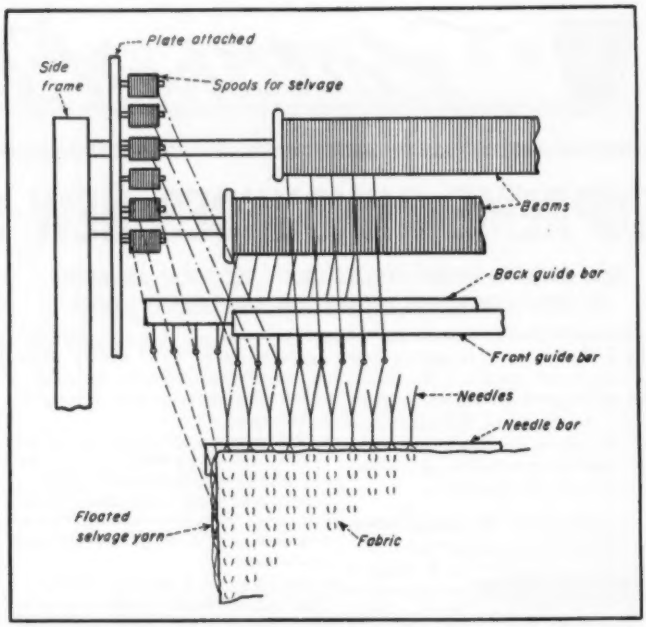
Unevenness of yarn tension and fabric thickness caused excessive needle breakage on our warp-knitting machines. This condition, we felt, was caused by the selvage yarns being fed at the same rate as the warp yarns.

To correct the fault, here's what we did.

We made a spool-holding plate, which we attached to the side of the frame. We put spools of selvage yarns on the holders and fed the ends in individually. We also reduced the width of the needle bar to that of the fabric.

The selvage yarns that are not caught by the needles are drawn out individually; they cling to the sides of the fabric as they do in full-fashioned-hosiery knitting. The tension on these ends does not become too loose because there is no positive feed. The yarn tension remains the same in the fabric because the selvage ends are drawn off individually.

We have found that with this set-up we get no excessive pressing of needles and no tucking. Our needle breakage has been reduced considerably, and our maintenance cost has been reduced. *Minoru Uno, Japan*



***SELVAGE ENDS** for warp knitting are separated from the beams and are fed from spools mounted on a plate at the side of the frame. The width of the needle bar is reduced to the width of the fabric, and the selvage yarns that are not caught by the needles are drawn out individually and cling to the sides of the fabric.*

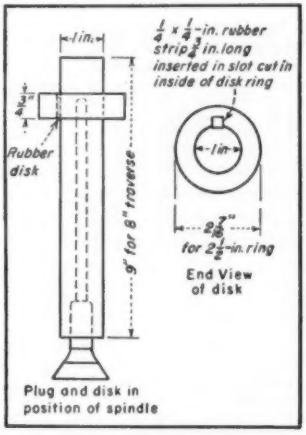
Plumb Your Spindles With This Plug and Disk

We made this plug and disk to use in plumbing our spindles. The disk fits fairly tightly on the plug; but we can reposition it easily, because the disk has a rubber strip inserted in a slot cut out of the inside of the disk. This rubber strip overcomes the troubles normally encountered with wooden plugs and disks, which tend to stick and slip.

Usually, if the disk is tight enough to stay in position at the top of the plug, it is too hard to reposition. On the other hand, if it is loose enough to move, it will not stay in a set position. The rubber strip exerts a slight pressure against the plug and holds the disk in the required place.

The plug is made about 1 in. longer than the traverse being used, and the outside diameter of the disk is about 1/16 in. less than the diameter of the ring.

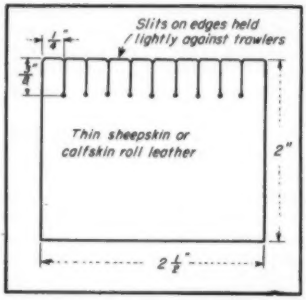
The disk should have quite a close fit on the plug; but it should be loose enough to be moved up and down on the plug before the rubber strip is inserted.


1 in.
1/4 x 1/4-in. rubber strip 3/4 in. long inserted in slot cut in inside of disk ring
Rubber disk
9" for 8" traverse
1 in.
2 7/8" for 2 1/2-in. ring
End View of disk
Plug and disk in position of spindle

***A RUBBER STRIP** inserted in the disk, as shown in the sketch, holds the disk firmly in its required place and prevents it from sticking or slipping.*

Repositioning is made easy by the elasticity of the rubber.

We Clean Travelers With Thin Leather Strip

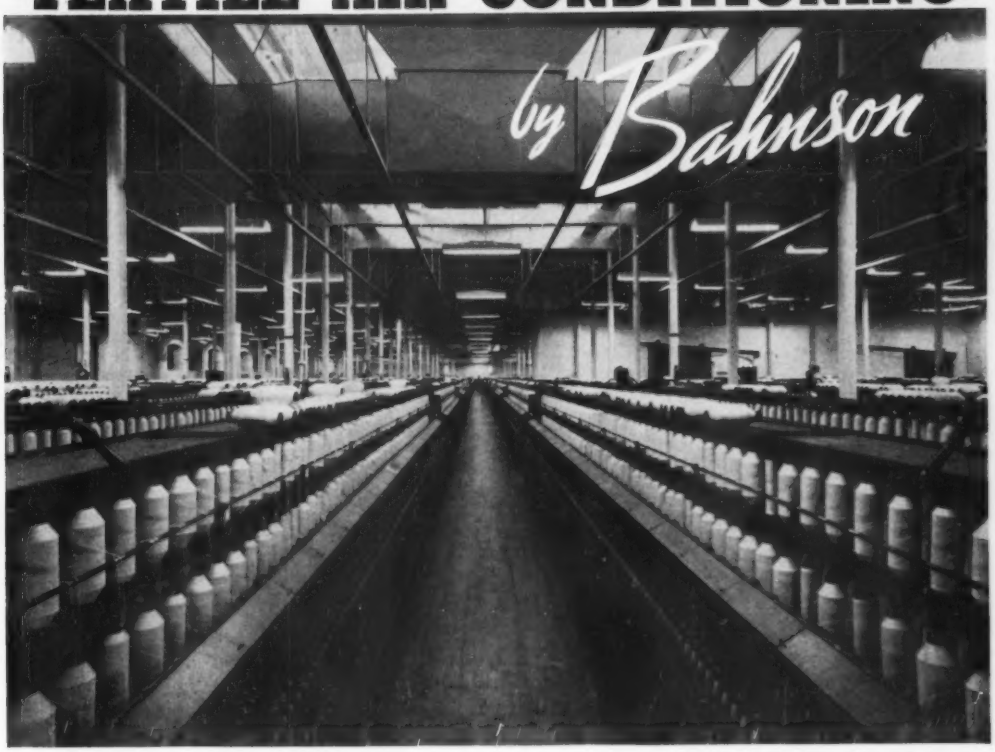


***BEFORE EACH DOFF**, our spinning doffers clean the travelers with this thin leather strip. Here's how they do it.*

The doffer passes the thin strip of leather along the edge of the ring rail so that the slitted edge is in very light contact with the revolving traveler for a very short time. When this job is done carefully and properly, the edge of the leather strip cleans the accumulation of fibers from the traveler. The contact with the traveler must be so light that it will not cause end breakage.

The use of this device requires care and good judgment on the part of the doffer since heavy contact causes end breakage.

TEXTILE AIR CONDITIONING



A Bahnson Central Station air conditioning system in this modern plant maintains humidity and temperature control in the cotton spinning room, but—whether processing cotton, rayon, nylon or wool, Bahnson engineers will study *your* particular requirements and recommend the Bahnson system best suited to *your* needs...

HUMIDUCT UNIT SYSTEM
CENTRAL STATION AIR WASHER SYSTEM
CENTRISPRAY AIR WASHER SYSTEM
AIR VITALIZER SYSTEM

Bahnson Engineering is based on 40 years experience in textile air conditioning and Bahnson equipment assures maximum efficiency at minimum cost.

The Bahnson Company
ENGINEERS AND MANUFACTURERS
WINSTON-SALEM, N. C.

 For more information, write direct or use Reader Service post card.

Kinks AND SHORT-CUTS

Selvages Improved for Tricot Fabrics

Normally, any fabric that comes off a tricot loom has ragged selvages because of the shogging movements of the guide bars in relation to the needles. This zig-zag effect is more pronounced when the displacement of the guide bars is great.

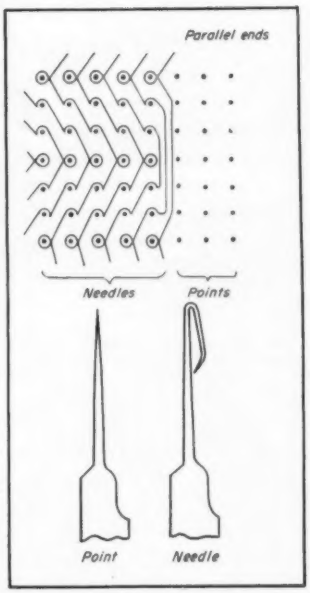
Here's how you can make straight selvages, and, at the same time, decrease cutting waste and enhance the appearance of the finished pieces.

Replace some of the selvage needles on each side of the fabric with straight points so that they will not form loops when the yarn is lapped around them. To make these points, clip off the beards of the needles and file the ends smooth so that the yarn will slip off easily when the needle bar descends.

The number of points that you will need will depend on the pattern. The number will be equal to the total number of needles that the guide bars shog over in one direction.

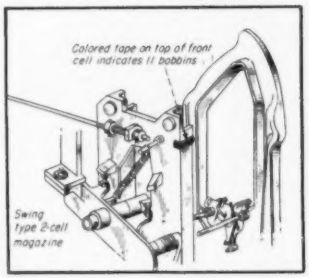
The ends supplied to these points are not included in the beam. They are fed from separate cones of yarn placed at the back of the machine on each side. These separate ends are necessary because the take-up of the selvage threads is different from that of the beam threads.

The resulting fabric will not only have straight selvages, but it will also be reinforced by the loose parallel threads lying at each side of the fabric.



***STRAIGHT SELVAGES** are said to result if the selvage needles over which the guide bars shog in one direction are replaced with straight points. To make the points, clip off the beards of the needles and file the ends smoothly so that they will not form loops. The yarn will slip off easily when the needle bar descends.*

Colored Tape Marks Full Point for Magazine



***OUR LOOM MAGAZINES** hold twelve quills of filling, but we prefer to load them with only eleven. To remind batteryhands not to overload a magazine, we put a piece of red tape where the eleventh quill rests.*

Both cells on a swing-type two-cell loom magazine holds twelve bobbins. If the front cell is on the change, a quick and hard movement will throw the top bobbin out of the magazine and often break the filling-detector-needle holder or some other important part. At other times, a thrown-out bobbin may fall in grease and must be discarded; or it may be severely bruised.

We fill the front cell with only eleven bobbins to prevent such damages. So that we will not have to constantly remind the magazine filler to put only eleven bobbins in the front cell, we have stuck a short

---

$200 for Best Kink in 1951
$25 for Best Kink Each Month

In Addition to Space Payment on Acceptance

You undoubtedly know of many kinks and short cuts that are helpful to mill operators. Write them down and send them in. We pay promptly on acceptance—before publication. In addition, your kink may win the $200 check for the best kink of the year or the $25 check for the best kink of the month, maybe both!

Send in your kink now. There is always a contest going on. The more good kinks you send in, the better your chances of winning a prize in addition to earning some easy money for every kink accepted.

We will polish up your writing and will have an artist make finished drawings. But send in plenty of details so that your kink can be clearly explained. Be sure your sketch is clear and well labeled, but it need not be a polished job. Best of all, send us a good glossy photograph of it—we will pay you extra if you do and we can use it.

Look over the kinks in this and other issues. You will get ideas you can use as well as inspiration for kinks you send in. We like items that pertain to ways for improving machines, new devices that a mill man can build, attachments or methods of merit—anything that will cut costs, improve quality, or help production.

Your published kink will be judged impartially by other mill men. In case of ties, duplicate prizes will be awarded.

RULES OF CONTEST

1. No limit to number of entries.
2. New $25 prize contest every month, $200 prize contest for the year. Monthly contest confined to kinks published that month, yearly to those published in calendar year 1951.
3. All kinks paid for on acceptance; extra payment for photographs. Drawings need not be finished (clear detailed pencil sketches will do).
4. Previously published material not eligible for prizes.
5. Unless you advise to contrary, we assume we may sign your name to kink when published.
6. Prize winners will be selected by readers, a different group each time. At least 200 will be asked to select preferred kinks in each issue. Their votes will select the best kink, and their decision will be final.

Send kinks to whichever address you prefer:

TECHNICAL EDITOR, TEXTILE WORLD
330 W. 42d St., New York 18, N. Y.

SOUTHERN EDITOR, TEXTILE WORLD
367 Ridgewood Ave., Charlotte, N. C.

NEW ENGLAND EDITOR, TEXTILE WORLD
P. O. Box 305, Salem, Mass.

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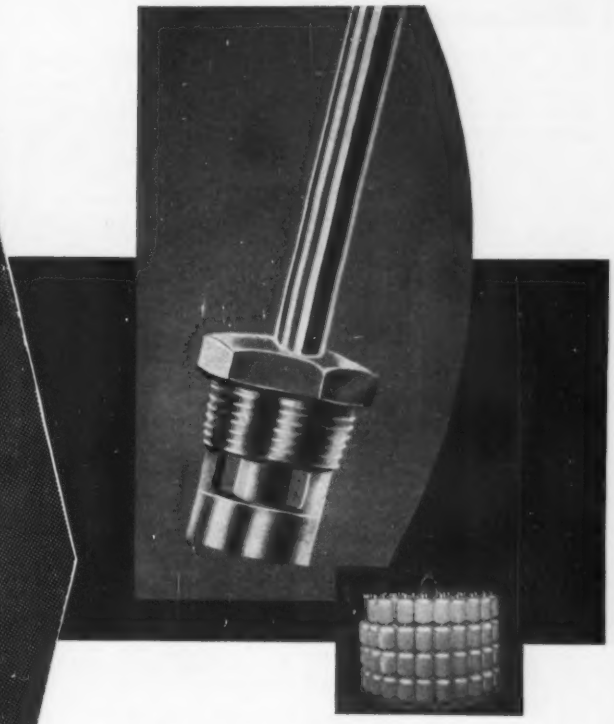

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- Entirely new construction
- Indestructible
- Greater Flow—for better dyeing
- Minimum Resistance—Open flow to package
- Interchangeable for all sizes of dye tubes

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length of red tape at the point where the eleventh bobbin fits. If a twelfth bobbin were put into the cell, it would show above the tape and remind the magazine filler to take it out.

We find this system especially valuable for fillers who are just learning the job requirements. The tape acts as a warning signal to the filler to stop on the eleventh bobbin in the front cell. *H. E. Wenrich, Berwick, Pa.*

Treatment for Lofty Hand

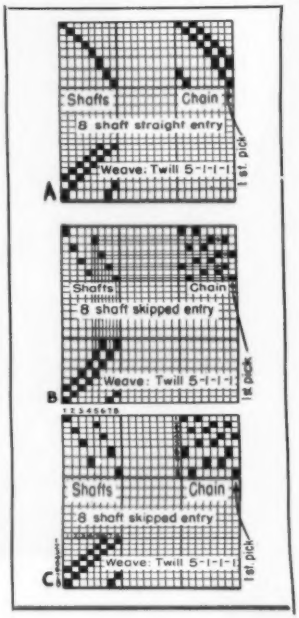
Here's how we give a lofty hand to knitted and woven goods.

We use 3 to 5% Velvepax to the weight of the goods in the last rinse at 100° F. We run for 15 min. and drop. The goods are not wet again thereafter.

We take the goods out of the machine if they are dyed or out of the washer if they are scoured. We extract and dry them, or we finish them in any way we wish.

This treatment improves the fabric hand without in any way damaging white or dyed goods.

Method for Changing Straight to Skipped Entry



There are a great many ways to change weaving drafts, and I suppose that every weaver prefers some one way. However, here is a quick way to change from a straight to a skipped entry.

Sketch A shows a 5-1-1-1 twill weave entered straight on eight harnesses and the chain draft for it.

Probably the most widely used method of changing the straight entry to a skipped entry is the one shown in sketch B. The sixth end of the first pick of the weave is entered on shaft No. 4 and transferred to place No. 4 on the first row of the chain. The eighth end of the first pick of the weave is entered on shaft No. 8 and transferred to place No. 8 on the first row of the chain.

Sketch C shows a much quicker method.

The first pick of the weave becomes the first line of the chain, the second pick become the third line, the third pick becomes the fifth line, etc.

A STRAIGHT ENTRY for an eight-harness 5-1-1-1 twill weave can be changed more quickly to a skipped entry by the method shown in sketch C than the one shown in B.

We Quit "Guess-timating"—Now We Measure Yarn

Our warp and filling yarn is dumped into chutes in the spinning room. These chutes open on the floor below in order to save transporting the yarn by elevator.

Pretty often we have to know about how much yarn is in one or more of the chutes. Before we figured out a better way, we just "guess-timated" the amount of yarn in a chute. Of course, we made frequent errors.

Finally, we worked out a simple and accurate way of measuring and calculating the yarn that remained in a chute.

Working the thing out was a little trouble, but using it day by day is quite simple. All we have to do is take a measurement reading and multiply it by a constant. The only calculation required to arrive at the amount of yarn in a chute is something like 8 x 133.2. In this example, 8 is the depth in feet of yarn in the chute, and 133.2 is the constant for a particular yarn number, bobbin, and chute.

Here's how we worked this method out.

We took a piece of spinning tape 2 or 3 ft. longer than the depth of the chute and fastened a ½-lb. weight to one end of it. Then we measured the depth of the chute and marked the tape off in feet, with the zero point being at the upper rim of the chute.

For example, if the chute were 18 ft. deep, the lowest foot mark on the tape would be 17. This 17-ft. mark would be the first one above the weight, with the weight being measured as part of the first foot. The second foot mark above the weight would be 16.

We use this tape as follows:

The weight is lowered into a chute partly filled with yarn. When the weight touches the yarn, the foot mark at the rim of the chute is read.

Say, for example, that when the weight touches the yarn the 10-ft. mark is at the rim of the chute. We therefore know that we have 8 ft. of yarn on the chute.

This figure is multiplied by the proper constant.

The constant is nothing but the net pounds of yarn per cubic foot of chute space. In the calculation mentioned (8 x 133.2), the 8 is the depth in feet of yarn in the chute, and the 133.2 is net pounds of yarn per cubic foot of chute space.

Net pounds of yarn (or the constant) is arrived at in the usual manner. A box of full bobbins of yarn is weighed and the bobbins counted. The weight of that many empty bobbins and the weight of the empty box are subtracted from the total weight to obtain the net weight of the yarn. Then the cubic feet of space in the box is calculated and the yarn per cubic foot is obtained.

For anyone interested in the calculations, here they are:

Empty box wt.—68 lb.

Box inside measurements—26×44×22 in.

(26×44×22) ÷ 1,728 cu. in. per cu. ft.=14.6 cu. ft.

Wt. of box of yarn—269.5 lb.

No. of full bobbins—225

Wt. of 225 empty bobbins—39.5 lb.

Box weight & bobbins=68+39.5=107.5 lb.

Total weight—tare weight=269.5 −107.5=162 lb. net weight of yarn.

162 lb.÷14.6 cu. ft. in box=11.1 net lb. of yarn per cu. ft.

Chute cross-section—3 ft.×4 ft.=12 sq. ft.

Constant = 12 × 1.1 = 133.2

W. C. Gibson, Jr., Decatur, Ga.

BROWN INSTRUMENTATION IS KEYED TO THE NEED OF EVERY TEXTILE PROCESS

Bleach

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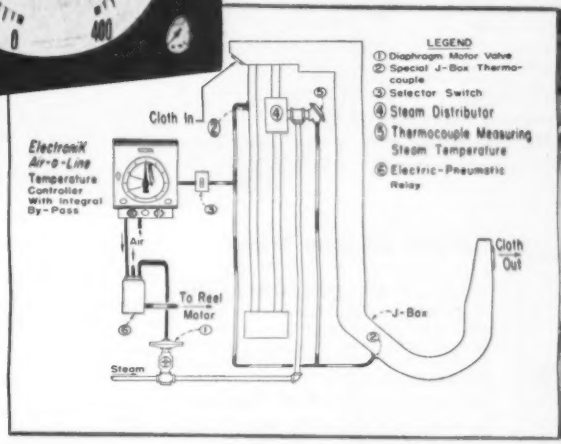
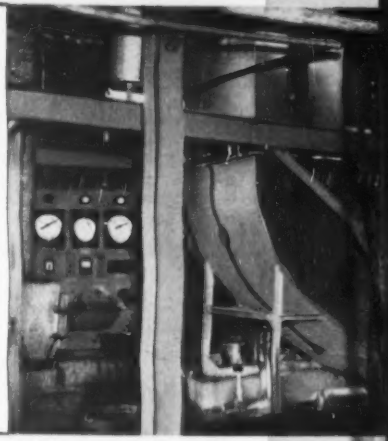
. . . with *ElectroniK* Air-O-Line TEMPERATURE CONTROL





Bleach Range Panel at Joseph Bancroft and Sons Co., Inc., Wilmington, Del. ▲

AN excellent example of efficient, continuous bleaching operations can be found at the plant of Joseph Bancroft and Sons Co., Inc., at Wilmington, Del.

By the use of an *ElectroniK* Air-O-Line Temperature Controller, installed on one of the first full scale production models of a Du Pont continuous bleach range, the control system has for more than five years made possible better bleaching at higher speeds and lower cost.

The measuring circuit and control functions of the *ElectroniK* instrument are instantly adaptable to J-box requirements . . . whether the box is of Du Pont or Becco design. Available control forms without instrument modification include: direct measurement and control . . . direct measurement and cascade control...direct control from differential temperatures . . . and direct control from averaging temperatures.

To overcome the limitations of ordinary thermocouples, a specially designed J-box thermocouple is used. Immediate benefits are derived from its super-sensitivity, insertion depth adjustability and splash-proof and stainless steel construction.

For more detailed information on instrumentation for bleaching operations, write for Data Sheets 8.1-13, 14, 15, 16 and 17, or call your local Honeywell engineer.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, 4509 Wayne Ave., Philadelphia 44, Pa. Offices in more than 80 principal cities of the United States, Canada and throughout the world.

MINNEAPOLIS
Honeywell
BROWN INSTRUMENTS

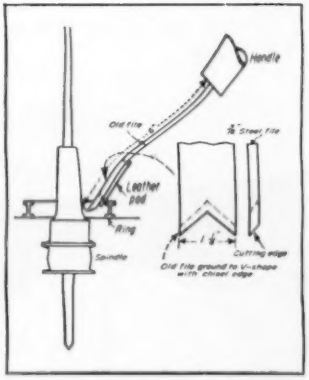
This Tool Removes Thread Waste From Spindles

Thread waste that collects on the bottoms of spindles is hard to remove. A handy tool for this purpose can be made from an old file or other flat stock.

The end of the file is ground to a V shape. The point of the tool is used as a cutting or prying edge. We cemented a piece of belt leather on the under side of the tool to prevent damage to the ring on which the tool blade rests.

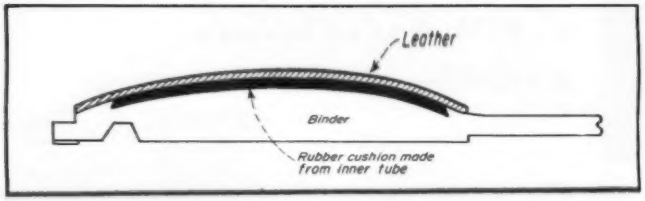
When the ring rail is down, the leather pad rests on the ring. The point of the tool is brought into contact with the thread collected on the spindle. A slight pressure and a prying action either cuts accumulated thread or lifts it up above the spindle seat so that it can be picked off easily.

This cleaner works well for keeping either acorn-type or clutch-type spindles thoroughly cleaned.



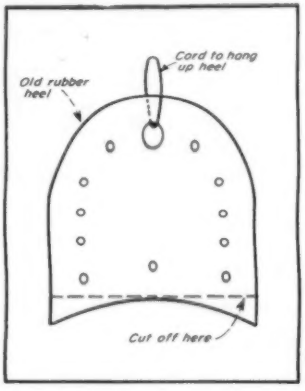
WE GROUND THE END of an old file to a V shape to remove thread waste from spinning spindles. We cemented a leather pad on the under side of the tool to prevent damage of the ring.

Floating Binder Gives Softer Shuttle Boxing



A RUBBER CUSHION made from an inner tube inserted under the leather of a binder for S-6 C&K looms gives less pressure in the shuttle box and results in softer shuttle boxing. This floating binder has lengthened the life of our binder leather. C. R. Batzer, Lancaster, Pa.

Old Rubber Heel Keeps Belts Clean



ONE OF OUR SLUBBER TENDERS has the cleanest belts in the room, and he uses nothing but an old rubber heel to do the job. He cut the curved section of the heel off straight across with a wet knife to give him a flat surface. He made a hole in the other end and inserted a short cord so that he can hang it up at the belt end of the frame.

This rubber heel rolls lint and caked-on waste from the belt without any damage to the belt, such as is often caused by stiff brushes, card wire, and other rough tools.

Catcher for Drop Wires

A canvas sheet spread beneath the warp when drop wires are being placed will catch loose wires that are dropped and keep them from falling on the floor. Wires caught by the canvas do not have to be cleaned; therefore, some time is saved. The sling can be moved out and the wires boxed up in less time than it usually takes.

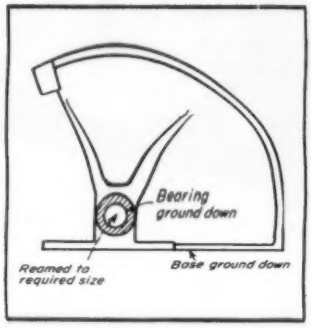
Using dark shades of canvas on light warps and light shades on dark warps will also improve the placing of wires, as separate warp ends can be more readily seen.

Flashlight Reflector Used on Microscope

A flashlight reflector can be used on a microscope to obtain stronger light on top of fibers or fabric being studied.

Enlarge the center hole in the reflector so that it will fit over the objective tube of the microscope. The reflector will direct much of the oblique light usually lost back on top of the subject.

We Cut Repair Cost on Card-Doffer Shrouds



WHEN THE SHROUD becomes worn, we mill down the base enough to compensate for the amount of wear inflicted. Then we rebore it to conform to the diameter of the doffer shaft.

After a number of years operation, our cards were becoming worn in certain spots, one of which was the doffer-shroud bearing. To repair these bearings, we used to bore out the shrouds and insert a new bearing made of porous metal. We found that these bearings did not give the service that we had been obtaining from the original shroud bearing.

We changed our method of repairing the shrouds and now get very satisfactory results. Here's what we do.

We mill down the base of the shroud enough to compensate for the amount of wear inflicted. Then we rebore it to conform to the diameter of the doffer shaft. In this way, we decrease the time required for repair, cut out the cost of the new bearings, and have the equivalent of a new doffer shroud. We can do the complete job in from one to two hours.

For better laundry net, investigate the *Kidde Knitter*

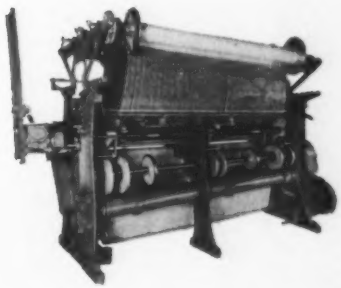
Nylon net produced on the *Kidde* Knitter offers exceptional durability—plus these other features that laundries want:

1. The net is runproof, because each end is anchored. Even if snagging causes a hole, the hole will not spread.

2. The net can be produced with large-size holes—giving better penetration by water and washing solutions than can be obtained with woven nets.

3. The holes will not close up when the net is full and under tension.

Of course, when you knit laundry net—or practically any other net—on the *Kidde* Knitter, you also get the advantage of *high-speed production*, with resulting savings in cost.



Use the Kidde Knitter on these fabrics too

ELASTIC FABRICS for corsets, girdles and brassieres. DRESS FABRICS. NETTINGS and VEILINGS. DISHCLOTH MATERIAL. CURTAIN FABRICS. NARROW FABRICS. SHOE CLOTH. KNITTED OUTERWEAR FABRICS for sweaters and polo shirts.

Free literature is available on the Kidde Knitter. Write for your copy.

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or other high tension yarns. Process them safely and maintain production schedules with

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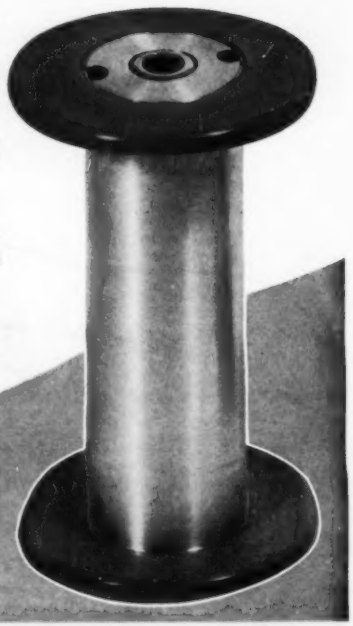
—designed and constructed to meet specific conditions that obtain in processing of modern high tension synthetic yarns, alone or in combinations with natural fibers.

Lestershire Bobbins are variously constructed of all-aluminum, bakelite, fiber, or combinations of these and other approved materials.

Your Lestershire Bobbins will be designed by specialists, fabricated by specialists for your special needs. Why be satisfied with less?



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PROCESS EQUIPMENT

Textile-wrapping equipment is described in a folder released by Hayssen Mfg. Co. The Hayssen automatic textile-wrapping machinery is fully automatic. The operator places the folded textiles on the in-feed conveyor and removes the completely wrapped and sealed packages from the discharge conveyor. **(F-1)**

The Eries magnetic hump is featured in a new bulletin released by the Eries Mfg. Co. The unit is designed to remove tramp iron from materials conveyed in pneumatic, gravity-flow, or liquid lines. **(F-2)**

A Bramwell card feeder is described in a bulletin published by Geo. S. Harwood & Son. The new type-G Harwood Bramwell card feed features self-regulating variable-speed apron drive and permanent oil-impregnated bronze and anti-friction bearings. **(F-3)**

A new brushing machine is described in the February issue of *The Hermas Clothroom Spotlight*, published by Hermas Machine Co. This latest Hermas brushing machine has the Warner electric brake system to assure instant and simultaneous stopping of all the brush rolls together, as well as simultaneous stopping of the shear. **(F-4)**

Preparatory machinery manufactured by C. G. Sargent's Sons Corp. is featured in a catalog published by that firm. The equipment described includes scouring, extracting, drying, opening, picking, dusting, blending, and yarn-handling machinery. **(F-5)**

Employee pension plans are discussed in a booklet published by City Bank Farmers Trust Co. The booklet goes into great detail to answer the question, "How Much Does a Pension Plan Cost?" **(F-6)**

Vicara is featured in a booklet published by Virginia-Carolina Chemical Corp. This fiber is designed to improve blends, including rayon, nylon, cotton, and wool. It is being spun and woven on all conventional systems. **(F-7)**

"Extra Arms and Hands for Towmotor One-Man-Gang" is the subject of an accessories folder released by Towmotor Corp. The folder pictures the various standard accessories provided by the company for fast, cost-cutting mass handling of unusual materials and special types of loads. **(F-8)**

Machinery installation is discussed in a bulletin released by The Barry Corp. "Barrymounts," the trade name of machine mounting pads, are designed to eliminate the necessity to lag or cement machinery to the floor. **(F-9)**

A fork-lift truck, Tier-Master, is described in a bulletin released by Mobilift Corp. This new truck gives 117-in. lift from floor to forks, and has a 72-in. clearance and 47-in. free lift. **(F-10)**

Materials handling is discussed in the latest issue of *Material Handling News*, published by Clark Equipment Co. This issue features many types of fork-lift trucks and auxiliary equipment used in materials handling. **(F-11)**

An automatic lubrication system is described in a bulletin released by Alemite Div., Stewart-Warner Corp. The Alemite Oil-Mist system operates on compressed air and applies a constant, uniform oil film to groups of bearings designed for either oil or grease lubrication. **(F-12)**

SUPPLIES AND CHEMICALS

Roller-chain flexible shaft couplings are described in a folder released by Link-Belt Co. The folder gives engineering information for proper application of Link-Belt "RC" roller-chain flexible shaft couplings, including dimensions, weights, service factors, and horsepower ratings. **(F-13)**

A thermocouple- and pyrometer-accessories catalog has been released by The Bristol Co. Listed are many new items and much new data on the proper application and use of thermocouples. The 56 pages also contain hundreds of pyrometer supply items. **(F-14)**

Water purification is featured in a folio issued by Penfield Mfg. Co., Inc. Penfield ion-exchange systems range in capacity from 30 gal. per hr. to 1,000 gal. per hr. Charts in the folio help a prospective user figure the chemical costs of operating a unit under his own raw-water conditions. **(F-15)**

Steel shelving and clothing lockers are illustrated and described in a 16-p. catalog issued by Precision Equipment Co. Equipment also includes parts bins and cabinets, waste receptacles, tool cabinets, industrial seats, steel trucks, and work benches. **(F-16)**

A modification of phenol-formaldehyde resins is discussed in a data sheet issued by Carboline Co. The modification, called Phenoline, requires no baking to obtain

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Reader Service (Continued)

maximum hardness and corrosion resistance. It is available in colors. **(F-17)**

Specialized casters for the textile industry are described in a bulletin issued by The Bassick Co. These casters are available with semi-steel roller bearings, Atlasite roller bearings, and Baco roller bearings. **(F-18)**

"The Story of Surface Coatings Based on Vinylite Resins" is the title of a booklet offered by Bakelite Co. The 28-p. booklet describes protective and decorative coatings for all types of surfaces, and it discusses the many applications of these surface coatings. **(F-19)**

Picker sticks and sweep sticks are described in a bulletin released by Norris Bros. The Norris super-stroke picker sticks and sweep sticks have shock-resisting, vulcanized-fiber inserts, designed to give longer wear. **(F-20)**

Modification of starches, proteins, and gums with peroxygen compounds is discussed in a 16-p. data sheet published by Buffalo Electro-Chemical Co. The principle of depolymerization of these high-molecular substances by means of hydrogen peroxide is illustrated and explained. **(F-21)**

Water softeners are featured in a bulletin issued by Cochrane Corp. This bulletin gives a detailed explanation of the sodium-zeolite softening process, which features the Cochrane hydromatic single-control valve. It includes data necessary for laying out a zeolite water-softening plant. **(F-22)**

Surface-active agents and organic-chemical specialties are described in a technical catalog issued by Alrose Chemical Co. Included are specifications and application of Alrose products designed for use in the textile industry. **(F-23)**

Truck casters and industrial truck wheels are featured in a catalog published by Divine Bros. Co. This 41-p. catalog lists and specifies the numerous wheel and caster combinations that are available, and it includes many informative articles pertaining to the general use and application of wheels and casters. **(F-24)**

A new oils chart is announced by Archer-Daniels-Midland Co. This new 24-p. bulletin describes and compares more than 170 different materials. They include a variety of linseed, soybean, and fish oils; fatty acids, specialty products, hydrogenated alcohols, glycerides, sperm oils, lecithin, and other chemical products. **(F-25)**

CONTROL EQUIPMENT

Industrial control for temperature, flow, pressure, liquid level, and humidity is featured in a catalog published by Industrial Div., Minneapolis-Honeywell Regulator Co. Presented in 60 pages are over 100 different models of non-indicating electric, electronic, and pneumatic controllers for industrial applications. **(F-26)**

Humidification and automatic cleaning are featured in the February issue of *Parks' Parables,* published by Parks-Cramer Co. The Gradumatic atomizer system is explained; and the Parks turbo up-draft cleaner, which is designed to supplement the CT traveling cleaner, is also described. **(F-27)**

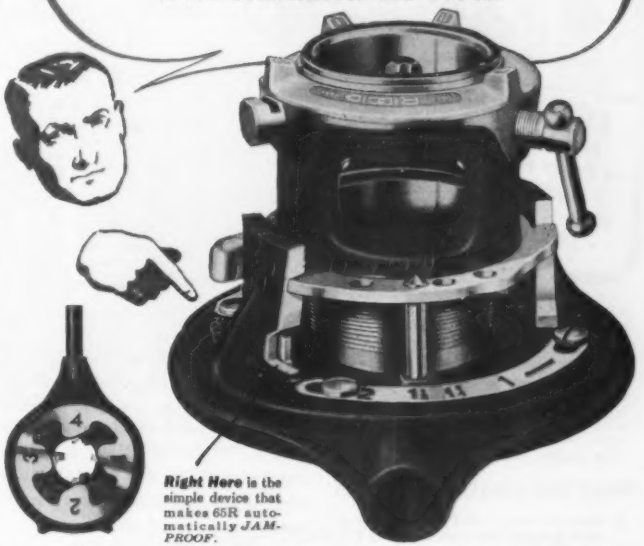
Production efficiency is discussed in a booklet published by Ericsson Telephone Sales Corp. The Ericsson Centralograph is an instrument designed to aid in the measurement of efficiency in textile plants. The Centralograph is said to almost entirely eliminate time and motion studies and to provide continuous control of the entire production process. **(F-28)**

Payroll problems are discussed in a series of three new folders published by Remington Rand Inc. These folders are designed to help industrial management make the change over from civilian to defense production by incorporating the latest simplified machine accounting procedure. **(F-29)**

Recorder equipment and tachometers are described in a 20-p. catalog published

You can't jam the new RIDGID 65R

Really streamlined pipe threading with this RIDGID self-contained die stock



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● You don't have to watch it—lead screw can't jam on workholder. New jam-proof drive plate automatically kicks out driving ratchet pawl when standard length thread is cut. Your recent model 65R easily converted—just buy new drive plate, put in place of old plate. Perfect threads on 1" to 2" pipe with one set of 4 high-speed steel dies—sets to pipe size in 10 seconds, mistake-proof self-centering workholder sets instantly! Buy the new jam-proof RIDGID 65R at your Supply House.

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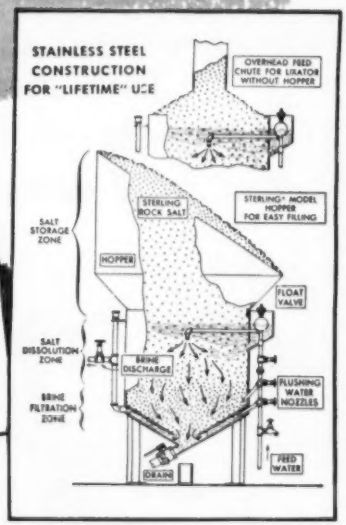

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In the dissolution zone—flowing through a bed of Sterling Rock Salt which is continuously replenished by gravity feed, water dissolves salt to form 100% saturated brine. **In the filtration zone**—through use of the **self-filtration** principle **originated by International**, the saturated brine is thoroughly filtered through a bed of undissolved rock salt. The rock salt itself filters the brine. Nothing else is needed.

WHAT THE LIXATOR PROVIDES

- ✓ **Chemical and bacterial purity to meet the most exacting standards for brine.**
- ✓ **Unvarying salt content of 2.65 pounds per gallon of brine.**
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- ✓ **Continuous supply of brine.**
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Savings up to 20% and often more in the cost and handling of salt have been reported by many Lixate users. Why not investigate?

• Say good-by to "guesswork" and bother! You can eliminate shoveling, hauling, and laborious hand stirring of salt and water—with International's Lixate Process for Making Brine. Assures accurate salt measurement every time. Stops waste through spilling. Saves time and labor.

• The Lixator *automatically* produces 100% saturated, free-flowing, crystal-clear brine which may be piped to as many points in your plant as you wish—any distance away—by gravity or pump. YOU SIMPLY TURN A VALVE to get self-filtered LIXATE Brine that meets the most exacting chemical and bacterial standards.

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The LIXATE* Process

FOR MAKING BRINE

*REG. U. S. PAT. OFF.

INTERNATIONAL SALT COMPANY, INC., Scranton, Pa.

Reader Service [Continued]

by Leeds & Northrup Co. It describes for the first time the application of Speedomax to speed recording, and includes a completely new line of tachometers with operating speeds ranging as high as 30,000 rpm. **(F-30)**

A new scale, the 77 Howe Weightograph, is described in a bulletin issued by The Howe Scale Co. The scale features large, illuminated graduations and figures that are said to be readable at 15 ft. **(F-31)**

ENGINEERING DATA

The Velan universal steam trap is featured in a bulletin issued by Velan Engineering Co. This steam trap is a small compact unit that weighs about 8 lb. It is said to have the capacity of ordinary 2-in. traps weighing up to 200 lb. **(F-32)**

Solvents used in textile processing are discussed in a 58-p. booklet, *Petroleum Solvents*, published by Esso Standard Oil Co. The solvents described include those used in wool degreasing, printing, waterproofing, and coating. **(F-33)**

Adjustable loading docks are described in a folder issued by Rowe Methods, Inc. These adjustable loading docks are designed to save dock space, handling time, labor, and breakage. **(F-34)**

Portable mixers are illustrated and described in a bulletin released by Eastern Industries, Inc. This bulletin includes information designed to help you select the proper type of mixer that you may need for your particular application. **(F-35)**

Unit heaters are featured in a bulletin published by Fedders-Quigan Corp. These heating units are designed for commercial and industrial applications. The bulletin includes capacity data on all models of the Fedder unit heaters. **(F-36)**

Feed-water control is discussed in a 16-p. bulletin published by Bailey Meter Co. The bulletin includes the latest developments in Bailey three-element feed-water control and discusses problems encountered in such control. **(F-37)**

Industrial floor maintenance is featured in a booklet published by Hild Floor Machine Co. The booklet includes descriptions of methods and equipment for scrubbing floors, dust control, and the refinishing and maintenance of floors. **(F-38)**

A high-capacity chlorinizer is described in a bulletin issued by Builders-Providence, Inc. The new model-HCVS Volumetric Chlorinizer features visible chlorine flow, wide-range metering, and individually sealed gauges. **(F-39)**

High-temperature lubrication is featured in a bulletin released by E. F. Houghton & Co., Inc. The bulletin includes a reference chart to aid in the selection of high-temperature oils in the range of 300 to 500° F. Houghton hi-temp oils are available in three series to cover this range. **(F-40)**

"How To Care For Your Floors" is the subject of a booklet published by S. C. Johnson & Son., Inc. This booklet has sections on each different type of floor, and it includes practical hints for cutting costs. **(F-41)**

Steam-valve and butterfly-valve sizing charts have been published by Fisher & Porter Co. The steam-valve sizing chart covers the range from 1 to 1,000,000 lb. per hr., and the butterfly-valve sizing chart covers the range from 15 to 10,000 gpm. **(F-42)**

Lighting equipment, including commercial and industrial fluorescent and germicidal types, is described in a catalog released by Edwin F. Guth Co. Featured in the catalog is the new Guth 4-in. Slimline for the complete line of 40-watt fluorescents. **(F-43)**

Hot-forged steel unions and valves are featured in a catalog published by Catawissa Valve & Fitting Co. The catalog includes complete data, specifications, and prices for these items. It also pictures both the standard and double extra-heavy hot-forged unions, orifices, lug

SQUARE D's

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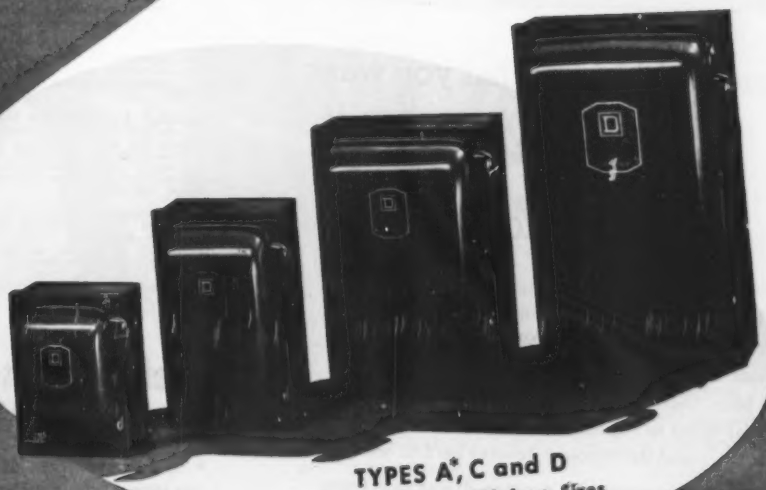
SAFETY SWITCHES



TYPES A*, C and D

30, 60, 100 and 200 Amp. Sizes

40 YEARS DESIGN LEADERSHIP

is reflected in the many design and operating features of this completely new line

Type A switches have full interlock, visible blades and magnetic arc plate as well as a simple, quick-make-and-break mechanism, dead front line terminals, positive pressure fuse clips, multi-spring jaws, silver-plated current carrying parts and removable pressure connectors.

***Types C and D** *resemble* **Type A** *in appearance but differ in construction details*

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Humidification

How about a system that shoots the works when conditions warrant it? Or . . . delivers a mere breath, when that little will do? AND . . . every varying amount in between, automatically; from 16 pounds (per hour, that is) from each atomizer to a mere 2 pounds? Spray so fog-like, its 2-pound delivery is hard to see . . . and its 16-pound delivery hard to believe.

But would you care for it unless it was safe from overflow, leakage or wetting down? And wouldn't you appreciate it if air and water ports . . . both were self-cleaning?

Advantageous as all this is, would you bother with such a system if it ate its head off in power? Or upkeep? Or repairs? Or had to be tinkered with, or frequently tested or readjusted?

All these improvements are now available in the new ParksTurbo Gradumatic Humidifying System.

Write for Bulletin 450

Parks-Cramer Company

Fitchburg, Mass. PARKS Certified Climate Charlotte, N. C.

Reader Service (Continued)

nuts, and full stainless-steel and full alloy-steel unions. **(F-44)**

A compressor with anti-friction roller bearings throughout is featured in a bulletin released by Chicago Pneumatic Tool Co. The 26-p. booklet illustrates and describes the Chicago Pneumatic class O-CE horizontal duplex motor-driven compressors. **(F-45)**

"How to Specify RLM-Labeled Lighting Equipment" is the title of a bulletin published by RLM Standards Institute. This booklet is designed to supplement the RLM specifications booklet and tells how to obtain the units that meet these specifications. **(F-46)**

Flexible ball joints are featured in a 16-p. bulletin published by Barco Mfg. Co. The construction of the Barco ball joint permits rotation as well as side flexing of the ball part in any direction up to 40 degrees. They are commonly used to overcome piping misalignment, as well as in other applications. **(F-47)**

A totally enclosed non-ventilated motor is described in a bulletin issued by Fairbanks-Morse & Co. This motor, type QXE, comes in several frame groups. It is designed to be installed where dirt, dust, abrasive particles, metal turnings, corrosive gases, and steam are prevalent. **(F-48)**

Cartridge ball bearings are illustrated and described in a catalog released by Norma-Hoffman Bearings Corp. The Norma-Hoffman cartridge ball bearing has easily removable seals, extra-large grease volume, grease grooves, and extra width. **(F-49)**

Water filters that are self-cleaning are described in a bulletin published by Sparkler Mfg. Co. This new line of model-SC filters is designed to filter large volumes of water and other liquids rapidly and at low cost. The self-cleaning feature eliminates the need for breaking the filter down for cleaning or inspection. **(F-50)**

Useful Accessories for Textile Mills

▶ To request further information on any item, please use the card in the Reader-Service dept.; refer to the number at the end of the item concerned.

Materials Handling

Automatic Scale Indicator

A new development in automatic-scale indication has been announced by Howe Scale Co., Rutland, Vt. The new model-77 Weightograph is an accessory that can be attached to any make of beam scale, and makes an old-fashioned beam scale automatic. Attachment is made to the beam shelf and connected to the beam with a rod. The unit incorporates the latest principles of optical projection to increase image brightness and instantly flash the exact weight in large, illuminated, clear figures for easy and accurate reading. (U-1)

Battery-Operated Truck

A new battery-operated freight truck for use in plants as a pick-up or delivery truck has been developed by Market Forge Co., Everett, Mass. The new Load-Mobile truck features 3-way operating positions designed to provide the utmost safety,

IN YOUR PRODUCT DEVELOPMENT—

You Need a Good Man on the *Other End, Too!*

Product development programs are no longer "one-company" jobs. The bigger your program is, the more you have to rely on the other fellow—and the output of *his* research —to make your own succeed.

Through its continuing development work on both basic and new industrial chemicals, General Chemical can help you "man the saw" in many ways:

For example, General's research has introduced a number of important new industrial chemicals. Some have proved the basis for customers' development programs or the answer to their development problems. Among these helpful "tools" are:

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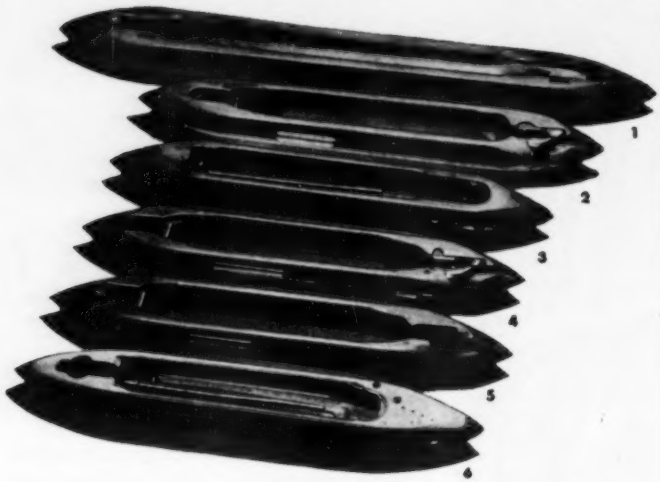

1. Shuttle for carpet loom 2. Shuttle for automatic wool or worsted loom 3. Shuttle for plain worsted loom 4. Shuttle for automatic cotton loom (equipped with brass threader) 5. Shuttle for automatic cotton loom (equipped with cast iron threader) 6. Shuttle for silk or rayon loom (equipped with Paterson tension and fibre covered on one side)

LOWELL SHUTTLES, widely recognized for their quality for more than half a century, include automatic and non-automatic types for all kinds of textile fibres and mills. Lowell Fibre Covered shuttles prevent roughing-up of yarns and the covering is applied to stay. The wood is thoroughly seasoned, carefully dried and finished to specifications. Shuttles can be furnished with automatic tension eyes, if desired.

WRITE FOR LOWELL SHUTTLE CIRCULAR

LOWELL SHUTTLE COMPANY

Established 1896 • Incorporated 1914

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SALES REPRESENTATIVES

Hendrik Van Brederode, 311 Godwin Ave., Midland Park, N. J.; W. P. Russell, P. O. Box 778, Atlanta, Ga.; West Philadelphia Supply Co., Emerald and Somerset Sts., Philadelphia, Pa.; E. B. Smith, P. O. Box 3085, Greenville, S. C.

comfort, and maneuverability. The operator has a choice of three positions: facing away from the load, facing the load, or standing on a special step provided for easy access on and off the truck. Large-capacity cushion rubber wheels with sealed ball-bearings are provided to reduce drain on battery. (U-2)

Dual-Purpose Hand Truck

A new, dual-purpose hand truck with a built-in hydraulic hoist for lifting and stacking has been developed by Clark-Hopkins Equipment Corp., Philadelphia 23, Pa. The combination hand truck and stacker is designed for loading and unloading heavy cases and barrels from ground level when loading docks are not available. The small, light-weight, highly maneuverable hand truck is said to enable one man to load and stack heavy merchandise after transporting from one location to another. The Lift Stacker weighs only 111 lb., has a capacity of 500 lb., and will lift loads to tail-gate height of 54 in. (U-3)

Heavy-Duty Caster

A new heavy-duty industrial caster has been developed by Aerol Co., Inc., 2820 Ontario St., Burbank, Cal. The new caster is designed to accommodate the Aerol wheel, which is said to withstand impact thrust loads of 40,000 to 60,000 lb. This heavy-duty unit is cast from prime aluminum alloy and is designed to minimize clutch wear, battery strain, and mechanical fatigue on power towing equipment. The new caster accommodates 8½-in. extra-heavy-duty wheels and has a designed load rating of 2,000 lb. (U-4)

Luminescent Packaging Tape

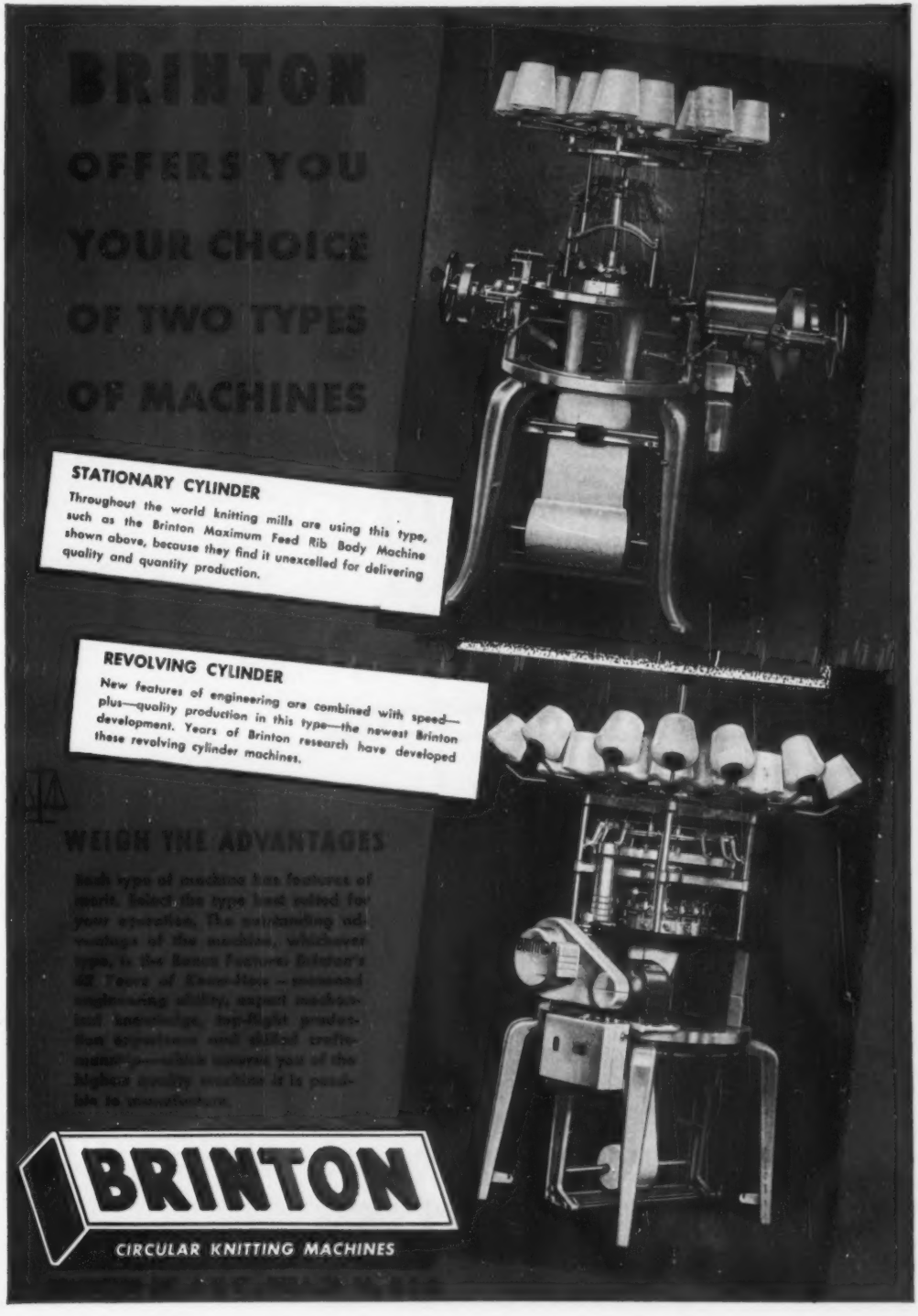
A luminescent packaging tape has been developed by Century Coating Co., Whitestone, Long Island, N. Y. The tape is used to seal and mark boxes and containers of all sizes and shapes. It can be put on any object that must be readily identified in the dark. For use in blackout areas, the luminescent tape can be seen easily from a distance of several feet. The luminescent pigment has a moistureproof coating of Goodrich Geon paste resin to provide toughness, abrasion and chemical resistance, and flexibility in hot and cold weather. (U-5)

New Platform Beam Scale

A new platform beam scale designed for fast, accurate, low-cost industrial weighing has been announced by Yale & Towne Mfg. Co., Philadelphia Div., 11,000 Roosevelt Blvd., Philadelphia 15, Pa. The new scale, called the Load King, is designed primarily for heavy-duty industrial applications where shock-loading is the rule. The lever system in the platform is all-steel, as are other key parts. No wood is used throughout. The new scale is built in capacities up to 6,400 lb. Platforms for the scale range from 46x38 to 76x54 in. (U-6)

New Portable Elevator

A new standard-model portable elevator, manufactured on a production basis and priced accordingly, has been announced by Barrett-Cravens Co., 4609 S. Western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OFFERS YOU
YOUR CHOICE
OF TWO TYPES
OF MACHINES
STATIONARY CYLINDER
Throughout the world knitting mills are using this type, such as the Brinton Maximum Feed Rib Body Machine shown above, because they find it unexcelled for delivering quality and quantity production.
REVOLVING CYLINDER
New features of engineering are combined with speed—plus—quality production in this type—the newest Brinton development. Years of Brinton research have developed these revolving cylinder machines.
WEIGH THE ADVANTAGES
BRINTON
CIRCULAR KNITTING MACHINES

Over 1,000,000 Spindles

EQUIPPED WITH REGNERY ADAPTERS

Because Your present spindles can be easily converted for sleeve type spinning.

Because The tried and proven conventional type of standard base, bolster and spindle with a wonderful record in many mills of 20 years or more of low cost operation and maintenance has a larger package and improved spinning with the Regnery Adapter.

Because Conventional spindles with Regnery Adapters balance out any other paper tube spinning in the mill.

Because A standard spinning bobbin can be used throughout the mill when filling spindles are converted with Regnery Adapters for use on a rewind operation.

THESE ARE THE ESTABLISHED FACTS!

1. More yarn per bobbin.
2. A smoother spinning unit.
3. Less ends down with better quality work.
4. Less waste in spooling operations.
5. A more uniform traverse.
6. A trouble-free, permanently "locked in" spindle and adapter.
7. A saving in doffing and spooling costs.
8. Lower bolster replacement costs.

LOWER YOUR PRODUCTION COSTS with REGNERY *ALUMINUM SPINDLE ADAPTERS*

Modern TOP drive adapters for the tapered or parallel bobbins can be installed in your mill quickly and easily to your specifications.

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Blvd., Chicago 91, Ill. The new unit is an addition to the Barrett "5-Hundred" line, with a lift 2 ft. higher than the 5-ft. lift of the regular model. The longer lift increases the height to which materials can be piled and gives the elevator a greater range of usefulness for overhead and ceiling repairs. The elevator was developed to meet the need for a higher lift in a 500-lb. machine. (U-7)

Spring-Steel Shelf Support

A new spring-steel shelf support designed for use with standard Unistrut channel has been announced by Unistrut Products Co., 1013 W. Washington St., Chicago 7, Ill. Uni-clip is a device which snaps in or out of the vertical channel member with speed and ease, and provides shelving flexibility. Adjustments are said to be quickly and accurately made to the smallest fraction of an inch. Ordinary wood or plywood shelves can be supported without the use of customary cross bars. (U-8)

Engineering

Circuit-Breaker Relay

A new reclosing relay (type ACR), specifically designed for use on automatic reclosing equipment with all types of power circuit breakers, has been announced by the Switchgear Div., General Electric Co., Schenectady 5, N. Y. Features of the new relay are optional or automatic reset at a definite time after any successful reclosure attempt, a self-contained means for permitting instantaneous initial and time-delay subsequent-breaker tripping, and faster immediate reclosure. The type-ARC relay includes contacts which perform functions that formerly required auxiliary relays. (U-9)

Fan-Cooled Motor

A new Sterling Slo-Speed (geared-head) totally enclosed fan-cooled motor with a disk-type brake has been developed by Sterling Electric Motors Inc., Los Angeles, Cal. The brake can be supplied for either stopping or holding. Both motor and brake are totally enclosed and dust-tight, being especially designed for use in atmospheres containing non-explosive dust, vapors, and other injurious foreign materials. The Slo-Speed electric power drive is manufactured in ratings from 2 to 15 hp. and in speeds from 280 to 30 rpm. inclusive. (U-10)

Mercury-Clutch Coupling

A new series-E mercury-clutch coupling has been developed by Mercury Clutch Div., Automatic Steel Products Inc., Canton 6, Ohio. The complete unit has a provision for mounting a standard, flexible coupling between the clutch and the driven load. The new mercury unit used with a flexible coupling is said to provide a satisfactory connection between the motor shaft and the driven shaft without necessarily maintaining exact alignment. The coupling is designed especially for electric motors up to 15-hp. rating. (U-11)

Pneumatic Cylinders

A new series of pneumatic cylinders for throttling-control service has been announced by Conoflow Corp., 2100 Arch

Are you having trouble in getting pine oil, sulfonated castor oil or other wetting and penetrating agents?

SOROLENE* G

...is in *good* supply. It is low in cost. And it does a satisfactory job wherever wetting and penetrating action is required!

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CHEMICALS FOR DYEING · FINISHING · PRINTING

ONYX OIL & CHEMICAL COMPANY
TEXTILE DIVISION
115 MORRIS ST., JERSEY CITY 2, N. J.
CHICAGO · BOSTON · CHARLOTTE · ATLANTA

In Canada: Onyx Oil & Chemical Co., Ltd., Montreal, Toronto, St. Johns, Que. For Export: Onyx International, Jersey City 2, N. J.

You CAN improve on a 95!

In skeet shooting, it takes an expert to break 95 out of 100 "clay pigeons"... but *champions* do better than *that*. They score 96, 97, 98, sometimes all 100, because they've given special, determined attention to the fine points of the sport.

In textile production, too, even *good* efficiency can be improved. For instance, it's entirely possible that a certain starch . . . perhaps even tailor-made to your own specifications... could contribute to an efficiency gain.

Why not call your Anheuser-Busch representative? He'll be glad to come and talk it over.

CORN STARCHES
DEXTRINES
GUMS
CORN SYRUPS

Phone or write

ANHEUSER-BUSCH, INC.

CORN PRODUCTS DEPARTMENT

ST. LOUIS

ST. LOUIS, MO. 721 PESTALOZZI
CHARLOTTE, N. C. 607 JOHNSTON BLDG.
NEW YORK, N. Y. 33rd & 12th AVE.

St., Philadelphia 3, Pa. The B-50 cylinders consist essentially of a new-design "C" ring sealing with a piston positioner integrally mounted in the head plate. The B-50 series is suitable for use with air-supply pressures of up to 100 psig. and are said to be capable of repositioning accuracies to 1/500th part of the total travel. These cylinders are designed to obtain all the sensitivity, accuracy, and the ruggedness demanded by control equipment. (U-12)

Small Rough-Service Lamp

A smaller, 100-watt rough-service lamp that fits standard wire-guard extension-cord equipment has been announced by Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh 30, Pa. The lamp is applicable to all types of rugged service and is said to be particularly adaptable to after-dark construction projects in that it emits more light than usual from a smaller, more breakage-resistant bulb. The new bulb is 2⅛ in. in diameter, with a maximum length of 5⅞ in. Voltage ratings range from 115 to 300. All ratings are designed for a life of 1,000 hours. (U-13)

Maintenance

Air-Dry Neoprene Coating

An air-dry protective coating for industrial maintenance made of Neoprene, the synthetic rubber, has been announced by E. I. du Pont de Nemours & Co. Inc., Wilmington, Del. The coating is applied by brush or spray gun in a single coat of from 6 to 10 mils thickness. It is said to have outstanding resistance to oil, grease, and chemicals; and to age-cracking by sunlight, weather, and ozone. Other properties claimed are resilience, elasticity, abrasion resistance, non-chipping, and non-cracking. The new material is produced by Gates Engineering Co., Wilmington, Del., and is called Gaco Neoprene maintenance coating. (U-14)

Method of Insect Control

A method for the control of a variety of small insects, flies included, has been announced by Aerovap, Inc., 170 West 74th St., New York 23. It is said that a minute quantity of "Lindane" continuously dispersed by a thermostatically controlled vaporizer is lethal to certain insects while harmless to human beings. One ounce per month of Lindane disseminated by one of the Aerovap vaporizers is claimed to be sufficient for complete control of disease-carrying flies and certain other insect pests in enclosed areas measuring up to 20,000 cu. ft. (U-15)

Answers to Textile Quiz

On Page 164

1. d. [TW, Mar., '51, p. 104]
2. c. [TW, Mar., '51, p. 127]
3. b. [TW, Mar., '51, p. 135]
4. c. [TW, Mar., '51, p. 139]
5. a. [TW, Mar., '51, p. 149]
6. b. [TW, Mar., '51, p. 151]
7. a. [TW, Mar., '51, p. 155]
8. c. [TW, Mar., '51, p. 159]
9. d. [TW, Mar., '51, p. 162]
10. b. [TW, Mar., '51, p. 105]

They Said It Couldn't Be Done

... but *NOW* Facts Prove It Can!

When we first demonstrated the Fiber Meter some three years ago, textile men said it could not possibly give the results we claimed.

Now, headshaking has turned to applause. Fiber Meter Automatic Blending Systems in practical operation in over 30 leading mills, have established these *facts.*

The System *will pay for itself* in from 9 to 24 months.

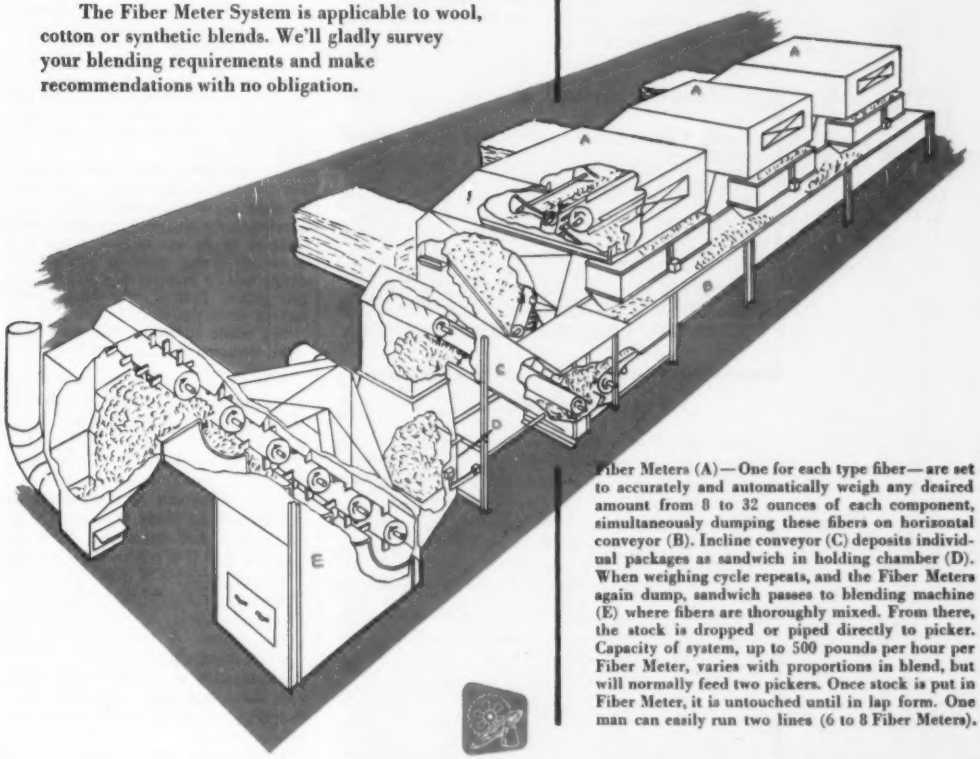
It will proportion fiber blends which produce yarn within a *maximum* blend variation of 1%. Actual experience shows an average of only 0.4%.

Over 142 million yards of cross dyed fabrics have been produced from Fiber Meter blended yarns *with no rejects because of filling bands.*

The Fiber Meter System is applicable to wool, cotton or synthetic blends. We'll gladly survey your blending requirements and make recommendations with no obligation.

FiberMeter®

AUTOMATIC BLENDING SYSTEM



Fiber Meters (A)—One for each type fiber—are set to accurately and automatically weigh any desired amount from 8 to 32 ounces of each component, simultaneously dumping these fibers on horizontal conveyor (B). Incline conveyor (C) deposits individual packages as sandwich in holding chamber (D). When weighing cycle repeats, and the Fiber Meters again dump, sandwich passes to blending machine (E) where fibers are thoroughly mixed. From there, the stock is dropped or piped directly to picker. Capacity of system, up to 500 pounds per hour per Fiber Meter, varies with proportions in blend, but will normally feed two pickers. Once stock is put in Fiber Meter, it is untouched until in lap form. One man can easily run two lines (6 to 8 Fiber Meters).

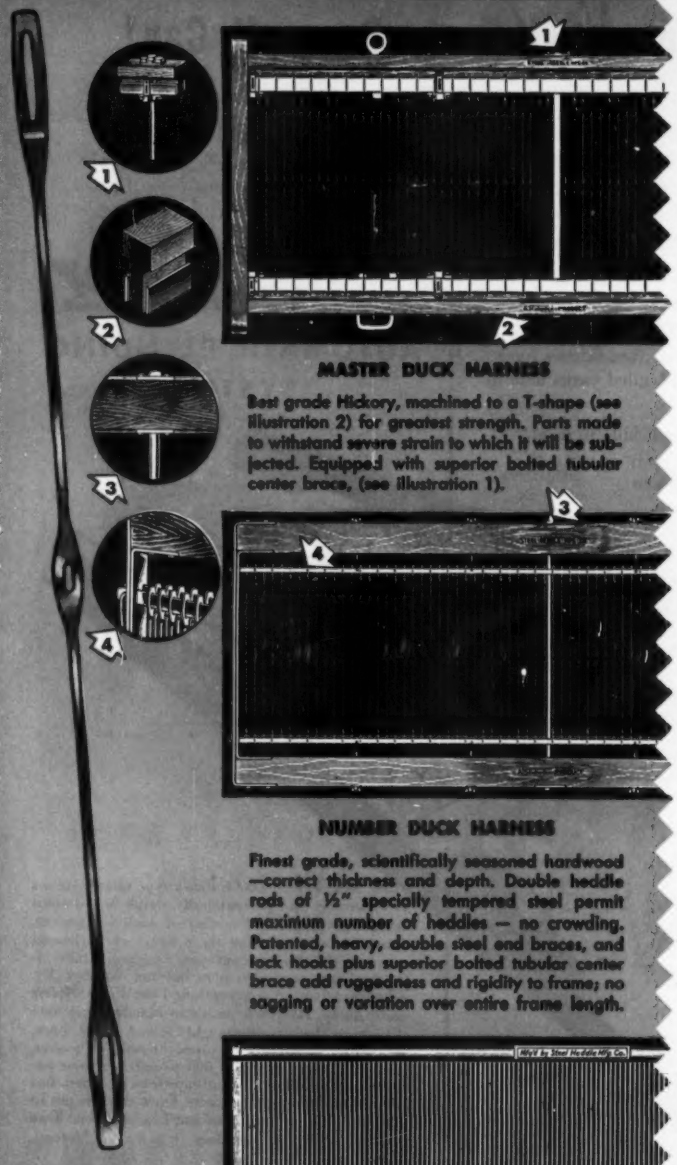
W. D. DODENHOFF COMPANY, *INCORPORATED*

TEXTILE MACHINERY DIVISION

619 Rutherford Street, Greenville, S. C.

Representatives: Northeast. Lee S. Case, Mill St., Newtonville, Mass.
Midwest. Jack L. Edington, 18954 James Couzens Drive, Detroit 27, Mich.

Stehedco . . .



MASTER DUCK HARNESS

Best grade Hickory, machined to a T-shape (see illustration 2) for greatest strength. Parts made to withstand severe strain to which it will be subjected. Equipped with superior bolted tubular center brace, (see illustration 1).

NUMBER DUCK HARNESS

Finest grade, scientifically seasoned hardwood —correct thickness and depth. Double heddle rods of ½" specially tempered steel permit maximum number of heddles — no crowding. Patented, heavy, double steel end braces, and lock hooks plus superior bolted tubular center brace add ruggedness and rigidity to frame; no sagging or variation over entire frame length.

FLAT STEEL COTTON DUCK HEDDLES

Have special, superior, smooth finish and polish, high degree of flexibility and correctly shaped and turned eye.

COTTON DUCK REEDS

Rigid construction—highly polished dent wire with rounded edges. Made in any size and number of dents. All reeds are dated and identified.

STEHEDCO and SOUTHERN "Weave the World's Needs"

1-1-8

Questions AND Answers

Overdrying Damages Shade More Than Temperature

Technical Editor:

In a paper on textile drying recently given in England, the author stated that dyeing can be made unlevel by improper drying.

In his discussion of this subject, the speaker said that high drying temperatures or too much water in the textile material may cause migration of the color.

His recommendations were: (1) that as much water as possible be removed from the cloth before it is heat-treated for drying; and (2) that low-temperature heat, particularly at the first stage of drying, be used on the fabric.

We agree that cloth should not be too wet when it enters the dryer. However, it seems to us that adopting the recommendation for drying temperature would force us to do one of two things: slow down our drying speed or lengthen our drying area to incorporate a low-temperature section. Both of these changes would increase our drying costs.

We would appreciate your opinion on these recommendations. (9428)

The practice in Europe is to dry at lower temperatures (and lower speeds) than are used here in the United States. Usually, however, they employ greater air circulation in the dryer than U. S. mills do.

The two main considerations in U. S. finishing plants are usually that cloth does not enter the dryer too wet and that it is not overdried. The European practice of using low drying temperatures undoubtedly makes overdrying less likely, or at least easier to guard against. A certain low percentage of moisture can probably be left in the fabric (or warp yarn) more easily and the percentage controlled more accurately if drying temperatures are low.

However, present speed-and-drying controls seem to work accurately enough to guard against serious overdrying.

In a broad sense, it is questionable to state that the higher the drying temperature the more likely the shade is to migrate. We seriously doubt

that it would be advisable in the United States, except in rare cases, to sacrifice the economy of high temperatures and fast speeds for whatever benefits may come from low-temperature drying to avoid migration.

We venture the guess that in U. S. plants more damage to shade results from overdrying than from high temperature as such.

"Super-Cottons" Not Available in Quantity

Technical Editor:

We've had requests for certain cotton-cloth constructions of unusual strength. At present, we are weaving these fabrics from very expensive American and imported long-staple cottons.

We've heard something about "Super-Cottons," which are said to have 50 to 100% greater fiber strength than ordinary cottons.

Are these cottons on the market? If so, could they be used to any extent in fabrics that normally require high-priced long-staple cottons? (9430)

The "Super-Cottons" that have been given some publicity in the last year or so are not commercially available yet. They are still in the development stage, and it may be a few more years before they will be available in anything like commercial supply.

Last year, some of these cottons were grown in sufficient quantity to permit limited spinning and mill tests. These tests have not progressed far enough to give sufficient data for detailed publication.

Over 30 Kinds of Tape Are Available to Mills

Technical Editor:

In our mill we are now using tapes of various kinds for a number of different things—such as to identify roving cans, to start cloth to winding on a roll, etc. In practically every use we've put them to, results have been satisfactory.

We are wondering, however, if we've overlooked some places where tapes of some kind could be used to replace present identifying marks.

If you have something like a checklist of tape uses in a mill, we'd like to have a copy. If you don't have such a list, we'd appreciate your pointing out any places in the mill where you've seen tapes in use.

We'd also like to get some idea of the best way to select tapes for particular jobs. (9427)

We are advised that there are over 30 different kinds of tape, many of them designed for specific purposes. Basically, the differences between the various tapes are in the degree of ad-

and Southern

Stehedco and Southern

COTTON DUCK LOOM HARNESS EQUIPMENT

If You are Weaving, or Expect to Weave Cotton Duck

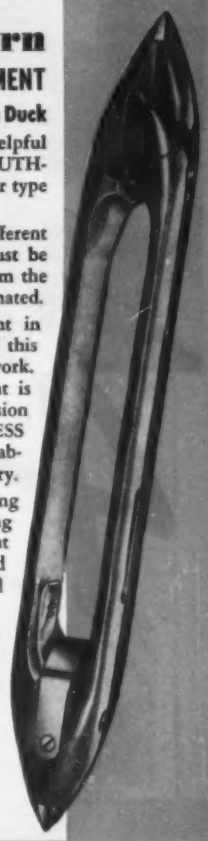
. . . You'll be interested in a highly specialized, helpful service—obtainable from STEHEDCO and SOUTHERN—for the successful weaving of this particular type of fabric.

As you know, changing over to weaving a different fabric presents problems. Many adjustments must be made. But, if these can be reduced to a minimum the headache caused by such a change, can be eliminated.

Change-over-problems are particularly evident in Cotton Duck Weaving. Due to the weight of this fabric, ordinary equipment will not do the work. Proportionately heavier loom harness equipment is required to withstand the added pounding, tension and strain. STEHEDCO and SOUTHERN HARNESS specifically designed and made for weaving this fabric will be found most economical and satisfactory.

STEHEDCO and SOUTHERN have been helping mills meet Government Cotton Duck demands long before the days of World War Two. In this present emergency, mill orders for refills of orders placed over a decade ago, have been processed and shipped without delay.

Yes, today STEHEDCO and SOUTHERN can meet your requirements on demand, and for those mills not as familiar with the details in weaving this fabric, STEHEDCO and SOUTHERN—mill trained—Field Engineers operating out of strategically located plants and offices will gladly cooperate in helping to overcome any obstacles encountered in your change-over. Phone, wire or write nearest plant.



COTTON DUCK SHUTTLE EYE

No. 45 brass, two tunnel eye with felt in back. (Interchangeable with No. 64) All Southern Shuttle eyes are cast in Southern's own new, modern foundry.

COTTON DUCK SHUTTLE (AC-9)

A regular left hand shuttle for weaving heavy yarn, equipped with a No. 45 standard wound two tunnel hole brass eye and No. 69 Four groove grip.

1-L-8

STEEL HEDDLE MFG. CO.

2100 W. ALLEGHENY AVENUE PHILADELPHIA 32, PA.

Other Offices and Plants

Greenville, S. C. • Atlanta, Ga. • Greensboro, N. C. • Providence, R. I.

SOUTHERN SHUTTLES Paris Plant Greenville, S. C.

A Division of STEEL HEDDLE MFG. CO.

STEEL HEDDLE COMPANY OF CANADA, LIMITED

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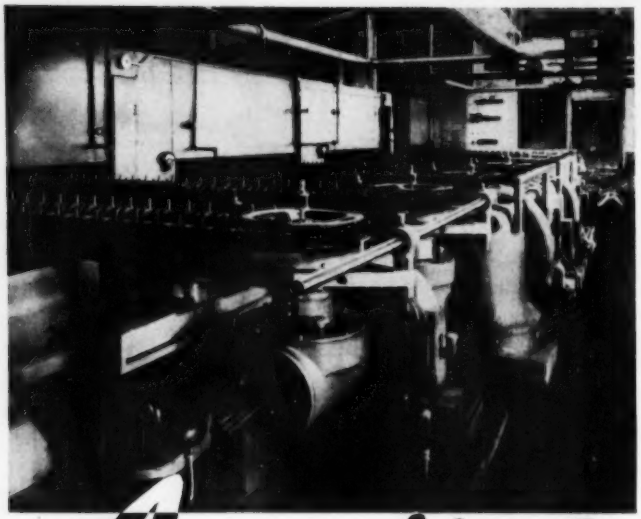


4 in line

PICTURED is a tenter frame room of the Greenwich Printing and Dyeing Company, Inc., East Greenwich, R. I.

As progressive converters, they believe in the full use of the most up to date production machinery.

Their tenter ranges are completely equipped with **Winsor & Jerauld Manufacturing Company T-4 high speed straight and S-11 controlled type swing (jigging) tenters.** Two of the tenters pictured are model T-4 straight frames and two are S-11 swing models.

(Ref. Bulletins WS-102 and SW-300 respectively).

Either model is capable of handling goods up to 60 inches in width and makes this particular tenter frame room one of the most versatile of its kind today.

Winsor & Jerauld
MANUFACTURING COMPANY INC.
1268 EDDY STREET, PROVIDENCE, R. I., U.S.A.
Builders of Fine Cloth Finishing Equipment since 1900

Questions and Answers

(Continued)

hesion and the types of backing. Tapes can be obtained with backings of cellophane, plastic films, film-paper laminates, cloth, paper, and even some metal foils.

In general, tapes are used in the textile industry for holding, identifying, labeling, protecting, and sealing. Some of their applications are:

1. Holding warp ends parallel on the beam
2. Holding the last layer of cloth on a full loom roll
3. Identifying grades and numbers of roving or yarn in cans or boxes
4. Holding fur in shuttles
5. Binding the centers of scavenger rolls to make the rolls easier to strip
6. Protecting the race plates on looms
7. Splicing narrow fabrics
8. Starting rolls of cloth on shells of Simpson winders
9. Identification of defects in cloth
10. General plant maintenance, such as masking in painting and insulating in electrical installations
11. Forming a guide on drying cans
12. Splicing roving on pin-drafting machines
13. Sealing paper liners in sliver cans to protect stock from dirt and dust

There is no set formula for selecting a tape. Each choice must be made on the basis of the particular problem to be solved. In general, though, the selection should be made with regard to the tape's tensile strength, tear resistance, flexibility, elongation, purity, hardness, strength, and the conditions to which the taped part will be subjected in the future.

The mechanical abuses and abrasions a tape may have to withstand must be considered. Paper tapes, of course, will withstand little abuse or abrasion. Flat-back tapes have little stretch or give. Cloth tapes, because of their ability to give under strain, may actually do some jobs better. Crêpe tapes can withstand considerable punishment.

12 Carding Questions

(Continued from page 109)

Mill R: Our roving frames are creeled running, and the operator always starts creeling at the same end. This method is better suited to our needs, because it gives us better production from our frames.

Mill S: Our method of creeling roving frames is to creel the frame while running. All cans are creeled at the same time with a small amount

Rayon Reports

Prepared Monthly by American Viscose Corporation, New York, N. Y. May, 1931

Gentlemen prefer comfort!
THE SIGNALS are rapidly changing for men's wear. The new rules of American living call for clothing that is casual, colorful and comfortable.
And to more and more males that means wearing slacks, sport shirts and leisure jackets more hours of the day at both work and play.
What caused this swing to informality? Many factors are responsible—but you can credit rayon with a big assist. For the popularity of this type of clothing is built on new ideas in fabric construction. Of course, this is where rayon shines! This fiber being man-made can be adapted made to fit special needs.
As a result, textile makers working with Avisco engineers have come up with a wide range of rayon materials distinguished by subtle colors, washability or cleanability, long wear and resistance to perspiration.
You probably own sportswear tailored from rayon right now. And you'll want to check up on the new and even better-looking numbers now available. American Viscose Corporation, 350 Fifth Avenue, New York 1, N. Y.
AMERICAN VISCOSE CORPORATION
AMERICA'S LARGEST PRODUCER OF RAYON

Avisco ad, appearing recently in *The New Yorker* and *Time Magazine*, dramatizes the contribution of rayon to the growing popularity of sportswear. The advertisement makes the point that good looking rayon fabrics now available have done much to stimulate consumer demand for more informal clothing. Like its predecessors, this Avisco message is designed to keep the public and opinion leaders abreast of developments in rayon—and to stimulate acceptance for rayon products.

MAKE USE OF *Avisco* 4-PLY SERVICE

To encourage continued improvement in rayon fabrics, American Viscose Corporation conducts research and offers technical service in these fields:

1 FIBER RESEARCH
2 FABRIC DESIGN
3 FABRIC PRODUCTION
4 FABRIC FINISHING

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Sales Offices: 350 Fifth Avenue, New York 1, N. Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.

RAYON 20 YEARS AGO

NEW YORK, May, 1931 — Cherrybloom Pink, Bamboo Tan, Buddha Blue, Lanternglow Yellow, Pagoda Cream and Oriental Red have been selected as the official colors for the 1931 summer season.

NEW YORK, May, 1931 —A new motion picture entitled "The Quality Control Plan" is being made available to retail stores by The Viscose Company.

BROOKLYN, May, 1931 — The exhibition of decorative art being held here is arousing wide interest. Featured attractions are rayon bedspreads, draperies, and wallcoverings.

better buy Bemis Burlap

It's Bemis for Tite-Fit Tubing, too

This versatile burlap tubing saves labor, time and material in packaging. The 2-way-stretch makes it fit almost any shape and a wide range of package sizes. Ask the Bemis Man about Bemis Tite-Fit Tubing.

Bemis

America's No. 1 Bag Maker and Burlap Importer

Baltimore • Boise • Boston • Brooklyn • Buffalo • Denver Charlotte • Chicago • Cleveland • Detroit • Houston Indianapolis • Jacksonville, Fla. • Kansas City • Norfolk Los Angeles • Louisville • Memphis • Omaha • Phoenix Minneapolis • New Orleans • Philadelphia • Pittsburgh New York City • Oklahoma City • St. Louis • Salina Salt Lake City • San Francisco • Seattle • Wichita

of sliver left in the can. We cannot compare creeling at the doff with creeling at random since we use neither method.

Mill V: We use two methods of creeling roving frames:

1. Creeling on the doff so that the splice will be in the first one-half layer of roving run on the bobbin. This half-layer is creeled out at the spinning. In splicing the drawing we will have short heavy places that will vary from 10% to 100% heavy. With this method our loss in production is 4.3%, which calls for a corresponding increase in the frame-operator's rate.

2. Creeling the entire frame while it is running. We think this method is fine when you can have the thick places in the yarn.

Mill W: We creel one-half of a frame (80 cans) at a time. All our frames are 8x3½, and we have a creeler in each room on each shift to do the creeling. It is not practical for us to creel on the doff.

Mill X: We are creeling 15 cans at each doff, while the machine is stopped. The advantages of this method of creeling are:

1. It equalizes creeling between operators on each shift.

2. The end splice is run on an empty bobbin and goes back in rework waste at the bobbin stripper. Unevenness in roving due to bad end splicing in drawing sliver is eliminated.

3. Roving frames can be operated with less surplus drawing.

Mill BB: We creel our roving frames one-half a frame at a time with bi-coil drawing. We are running 10x5 high-draft roving frames, with 120 spindles, and make 1.45 hank roving and .98 hank roving. The creeling of one-half frame at a time only requires that 30 cans be positioned at a time. We creel while the frame is running and do not require frame hands to creel on the doff. All of our creeling was formerly done on the doff, but tests have indicated that only very slight unevenness is caused from creeling with the frame running. We feel unevenness is not important enough to warrant the loss in efficiency on the frames that would be necessary by creeling on the doff.

Mill GG: On long-draft roving running from drawing cans in the creel, we creel at the doff, either one-half or all of frame. The splice comes on the small part of the bobbin. We have noticed a definite improvement in spinning ends down as compared with random creeling. We run entirely on single roving in the creel of our spinning.

Mill HH: We creel slubbers when

NEW FIBERS—NEW TECHNIQUES—NEW PROBLEMS

ORLON

DACRON CELCOS

VISCOSE

DYNEL

ACETATE RAYON

If your problem is dyeing

ACETATE RAYON CHEMSTRAND
NYLON DYNEL ORLON DACRON
CELCOS VISCOSE · VICARA GLASS

we offer practical assistance based upon the accumulated experience of our Research Laboratories and Field Technicians.

We will recommend the dyestuffs to use and suggest the method of dyeing which in our experience gives the best result in terms of end-use. Submit your problem to our nearest sales office. Your inquiry will receive careful and prompt attention.

GENERAL DYESTUFF CORPORATION

TEXTILE BANKING COMPANY

Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

the creel runs out regardless of the size of the bobbin. The frame is not stopped. There is an advantage in evenness on fine numbers to creel a slubber on the doff and standing. If creeling is done properly, we see no advantage in creeling on the doff when coarse numbers are run.

Portable Vs. Vacuum Card Stripping

Question: Compare the advantages and disadvantages of the portable brush-type card stripper with the vacuum automatic-stripping system.

Answer: Most mills were agreed on the following answer to this question:

Portable Brush Card Stripper

Advantages:

Does a more thorough stripping job than vacuum type. Gets seeds and particles out of the clothing

Burnishes wire

Disadvantages:

Takes too long to strip and requires too much labor—loses production

Causes too much dust and lint in the air

Causes more belt repair and thus greater power consumption

Vacuum stripping

Advantages:

Quicker

Less costly in labor (in one case, stripping force reduced from 6 to 3 men)

Less dust and lint in the air

Less damage to the card and clothing

Outlet on air lines permits vacuum cleaning of lickerin and other parts

No stripping box in operator's way

Disadvantages:

Does not get all motes and particles out of wire. Four mills said they supplement vacuum stripping with brush stripping once a week, once every two weeks, once every 288 hr, and "occasionally," respectively.

Ball Bearings on Pickers

Question: Give your experience on improvement of lap evenness and effect on set-backs by installing ball bearings on all moving parts on pickers. Describe where ball bearings are used.

Answers:

Mill B: Ball bearings definitely improve evenness of picker laps. They are used on the feed-apron bearings, fan bearings, beater bearings, synchronizer bearings, cone and drum-pulley bearings.

Mill C: We have installed ball

British craftsmanship at its finest

Mellor—MB—Bromley

INTERLOCK

KNITTING MACHINES

4RL SERIES INTERLOCK MACHINES BUILT WITH MULTIFEEDERS FOR CONTINUOUS INTERLOCK OR WITH AUTO-CHANGE FOR FANCY PATTERNED FABRICS.

The Mellor Bromley range of top-line machines covers most classes of underwear and outerwear fabrics and garments. Send for illustrated leaflets of the types in which you are interested.

Here are five of the principal plants of the Mellor Bromley group in England, employing some 3,000 workpeople—many with 25, 40 and 50 years service.

MELLOR BROMLEY & CO. LTD
LEICESTER · ENGLAND

For more information, write direct or use Reader Service post card.

HESS, GOLDSMITH

"Glad to recommend

***Titan* KNOT TYING MACHINE"**

"We have found it eminently satisfactory in every way.

"We use this machine for knotting nylon warps—both as a portable knotter behind the looms and also in stationary position in our twisting department.

"We are glad to recommend Titan warp tying machine highly."

M. R. Goldsmith, Jr.
Vice-President

•

Eliminate slow and costly hand tying of all warps with this new machine at speeds up to 18,000 knots per hour, and better, either on the loom or off the loom.

Ties up to 108" warps in a single continuous automatic operation from selvage to selvage.

Here are typical results obtained in representative American mills—with one tying head and on only one tying frame. By adding additional frames these figures can be greatly increased.

- ***Acetate warp, 9055 ends*—preparation 22 minutes, tying-in 24.5 minutes—total 46.5 minutes.**
- ***Rayon warp, 7050 ends*—preparation 20 minutes, tying-in 19 minutes—total 39 minutes.**

Send for full facts.

EDDA INTERNATIONAL CORP.
468 FOURTH AVE. NEW YORK 16, N. Y.
U. S. General Sales Agents

bearings on all picker fans and beaters. We have also equipped one back-evener cone box with ball bearings. We have no figures as to the actual effect these bearings have had on evenness but we feel sure they contribute greatly to quality work. Maintenance cost is also greatly reduced by use of ball bearings on beaters and fans.

Mill E: We only have ball bearings on our beaters. However, we find that they are proving satisfactory from a maintenance standpoint.

Mill F: Our pickers have ball bearings just about everywhere we can put them: fans, beaters, apron shafts, top and bottom cones, side shafts, and evener shafts. These bearings give you a much lighter and freer-running machine and will most certainly give you improved lap.

Mill H: Ball bearings are installed on lap pins, beater, fan, and evener-motion shafts. Experience is highly satisfactory. There are fewer breakdowns on the pickers, and lap variance is less. Lap is held within 1-lb. tolerance (plus or minus).

Mill S: Except for loggerhead, calender, and bed rolls, all other bearings are ball type throughout the picker. A definite improvement was made on lap evenness after installation of ball bearings, and the use of the set-back machine was greatly reduced.

Mill Y: Ball bearings are used on beaters, fans, aprons, and synchronized evener cones. These bearings help lap evenness and reduce setbacks about 20%.

Mill FF: We use ball bearings on all possible moving parts on our eveners. We do not see where ball bearings at any other place would materially affect lap evenness. Our variation runs approximately 3.5%.

Effect of Ball-Bearing Rolls On Drawing Variation

Question: What effect do ball-bearing drawing rolls have on variation? Give speed run.

Answers:

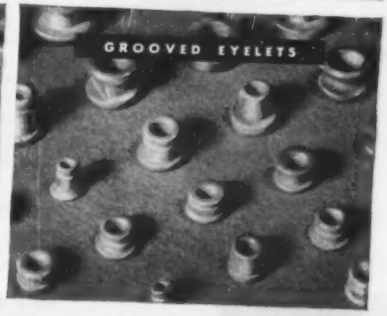
Mill C: We have all conventional four-roll drawing, most of which is ball bearing. At speeds of 130 to 200 ft. per min., we try to maintain variation less than 30% on 55-gr. sliver. Our new frames have been running at 130 ft. per min. with less than 20% variation on finisher drawing. We can give no fair comparison between ball-bearing rolls and plain rolls since our plain rolls are now worn and about to be replaced.

Mill O: We ran one set of ball-bearing drawing rolls in our lineup for approximately two years. We dis-

For more information, write direct or use Reader Service post card.

ALSIMAG® *custom made eyelets*

Easy to Install • Uniform in Size and Material from Lot to Lot • Long Wearing • Lowest in cost, per pound of yarn processed • Smooth • Dimensional Accurate Hard • Homogeneous (no point of sudden failure)



CUSTOM MADE TO YOUR SPECIFICATIONS IN:

ALSIMAG® 192

Very hard (8 on Mohs' scale), smooth, long wearing, lowest in cost, and considered standard. Ivory color.

ALSIMAG® 193

Identical to AlSiMag 192 except that it is metallic grey in color and is electrically conductive, assists in control of static.

ALSIMAG® 491

Extremely hard (9 on Mohs' scale), mechanically strong (Resistance to Impact, Charpy 7.0 ft. lbs. PSI, Tensile 12,000 PSI, Compressive 100,000 PSI). Light blue in color. Its cost is well justified where excessive wear is experienced or where mat finish must be maintained under severe conditions.

ALL MATERIALS AVAILABLE IN SATIN OR BRIGHT FINISHES.

STRAIGHT EYELETS. The dimensional accuracy of all AlSiMag Guides makes them easier and quicker to install.

TAPERED EYELETS. The taper on the sides makes these easiest to insert in close tolerance holders.

SLOTTED EYELETS. Quick, easy to thread. Practical where yarn runs in one position without "ballooning." Since the wear is concentrated on a small area, the extra long life of AlSiMag Guides is especially advantageous.

GROOVED EYELETS. Usually held by spring clips, not cemented. Especially good design for AlSiMag 193 (electrically conductive) Guides to aid in elimination of static.

***SAMPLES** from our file are sent to you without charge. Samples can be hand made to your specifications at reasonable cost.*

AMERICAN LAVA CORPORATION

50TH YEAR OF CERAMIC LEADERSHIP

CHATTANOOGA 5, TENNESSEE

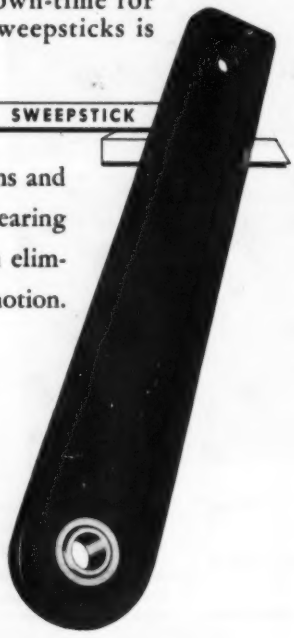
OFFICES: METROPOLITAN AREA: 671 Broad St., Newark, N. J., Mitchell 2-8159 • CHICAGO, 228 North LaSalle St., Central 6-1721
PHILADELPHIA, 1649 North Broad St., Stevenson 4-3823 • LOS ANGELES, 232 South Hill St., Mutual 9074
NEW ENGLAND, 38-B Brattle St., Cambridge, Mass., Kirkland 7-4498 • ST. LOUIS, 1123 Washington Ave., Garfield 4959

Mill owners who have been using Heim Unibal Sweepsticks on their looms for from one to two years, report that they last longer than any other sweepstick they have ever used, that their pick action is smoother, and that down-time for replacing worn out sweepsticks is greatly reduced.

THIS IS THE HEIM UNIBAL SWEEPSTICK

Try them on your looms and benefit by this long-wearing Heim sweepstick which eliminates slack in the pick motion.

The Heim Sweepstick has a self-aligning Unibal bearing assembled as an integral part of the body of resilient, shock-absorbing, rubber bonded fabric. The secret of its longer life is the Heim Spherical Bearing which prevents elongation and wear at the stud hole.



THE HEIM COMPANY

FAIRFIELD, CONNECTICUT

continued using them for the following reasons: (1) sticking bearings; (2) could not keep correct tension; (3) variation in weights. We believe ball-bearing rolls will give good results if the bearings are properly aligned and lubricated at the factory. We produce 153 ft. per min. of 69-gr. sliver.

Mill Q: The ball-bearing rolls we are now using on drawing have reduced the variation considerably. This is not a good comparison, however, since the rolls replaced were badly worn. We are running these rolls from 140 to 190 ft. per min.

Mill S: Over a short period of time, no decrease in variation has been noted with ball-bearing drawing rolls over plain bearings, at a speed of 145 ft. per min.

Covering Stripper Lines Running Outside Mill

Question: Have you found it necessary to cover vacuum-stripper lines where they run on the outside of the mill? If so, why?

Answers:

Six mills, with lines running outside from 60 to 150 in length said no trouble had been encountered. One of these mills (Mill U) said it was necessary, however, to keep joints sealed to prevent leaks. If joints leak, water will be pulled into the pipe and cause cotton to choke up.

Some mills had found it necessary to cover pipes with 1-in. air-cell covering, asphalt and cloth, or magnesia covering. Principal reason given was that warm, moist air condensed on the inside of the pipe. The sweating caused cotton to adhere to the pipe walls and cause chokes.

Controlled-Draft Drawing

Question: Give your experience with controlled-draft drawing as compared with conventional four-roll drawing. State how evenness, strength, and variation were affected; and give the weight of sliver and yarn count you are making.

Answers:

Mill A: Experience is limited. Tests indicate that yarn produced from two-process conventional top-roll drawing is stronger and more even than yarn produced by controlled draft drawing. We make 52.92 sliver and 30s yarn.

Mill Q: Experience on controlled-draft drawing very limited. First tests were good in both drawing evenness and in bobbin-to-bobbin variation in spinning. However, after a while we had unexplainable jumps in variation

PYROTEX

for better scouring

PYROTEX is efficient and economical in the scouring and dyeing of all fabrics and yarns.

PYROTEX is neutral.

PYROTEX can be used hot or cold; under neutral, alkaline, or acid conditions; in hard or soft water.

PYROTEX is free-rinsing.

PYROTEX leaves the goods with a clear, bright shade and a soft, pleasing "hand."

STANDARD CHEMICAL PRODUCTS, Inc.

1301 JEFFERSON STREET, HOBOKEN, NEW JERSEY

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Sunbury, Pa. • Sacramento, Cal. • Greensboro, N. C. • Leaksville, N. C.

Manufacturers of: Stantex* oils • Standapol* • Retardine* • Stanteosine • Standafin

* Trade Mark

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YOU CAN PROFITABLY USE A HERMAS AV SHEAR!

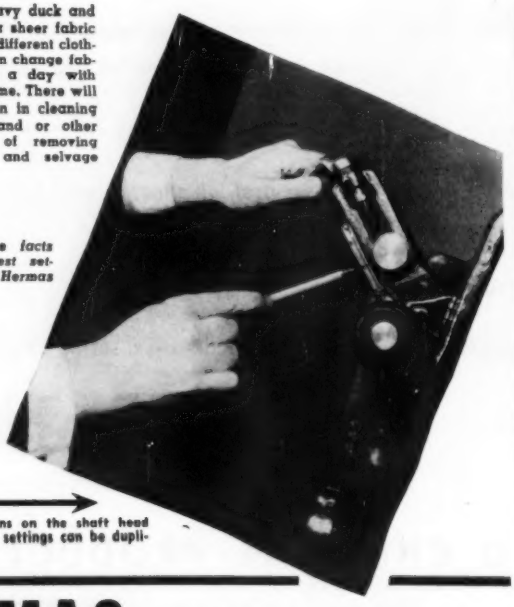
Don't let short runs of different weight fabrics deter you from having a shear.

You won't have to spend hours in setting clothrests individually when you run fabrics of different weights in quick succession.

With Hermas patented automatic clothrest setting device, all four settings are made simultaneously from *a single control point. Calibrations show exactly what change you are making.*

You can run a heavy duck and in a few minutes a sheer fabric requiring a totally different clothrest setting. You can change fabrics several times a day with negligible loss of time. There will be tremendous gain in cleaning time over any hand or other machine method of removing hanging threads and selvage loops.

Write for all the facts about this clothrest setting device on Hermas shears.



Note the calibrations on the shaft head and scale by which settings can be duplicated readily.

HERMAS MACHINE COMPANY

America's only exclusive specialists in clothroom equipment

Hawthorne **New Jersey**

and difficulty in maintaining good yard-to-yard weight in drawing.

Mill T: We ran a test comparing controlled-draft drawing with conventional two-process drawing as follows. A 62-gr. card sliver was made into a 56-gr. sliver on a controlled-draft frame. The evenness of the sliver and roving was compared with the regular sliver and roving made by two-process drawing.

Conclusions: The controlled-draft drawing produced slightly more even sliver and roving than the two-process drawing.

Average results: Average Maximum Variation	Controlled Draft	Regular Drawing
Drawing sliver..	8.2	9.0
Roving	4.6	5.0
% Average Maximum Variation		
Drawing sliver.	21.4%	23.7%
Roving	39.7%	44.8%

Mill Y: Controlled-draft drawing produces a sliver with fewer piecings, fewer thick-and-thin places—a result of less stopping and starting of drafting rolls—and gives a uniform can of sliver for creeling on the roving frame. We noted very little difference in breaking strength. Our sliver is 65 gr., yarn is 6s to 20s.

Mill FF: Our experience was not as good as we were led to believe it would be. Standard efficiency was set at 90% at 100 ft. per min., but we could only average around 80%. Maintenance was higher than on our conventional four-roll drawing.

Ball Bearings On Roving Top Rolls

Question: Give results of your experience with ball or needle bearings on top rolls on roving frames. State size of roving, improvement in yarn strength, if any, and other advantages.

Answers:

Mill C: The first ball-bearing top rolls on roving frames were not successful. However, the manufacturer replaced these rolls free of charge with slightly heavier rolls, which are giving good service. Eight of our 10x5 frames running 1.20-hank roving have been operating on these rolls for about 6 months. Our ends-down tests show little or no improvement in end breakage. We have not compared yarn strength.

Mill E: Our experience is somewhat limited, but from tests made so far we have not been able to justify the expenditure. Evenness of our roving and breaking strength of our yarns has improved very little. Yarns tested were 6s to 20s. Rovings tested were 1.5- and 2.0-hank.

Mill F: We have several slubbers

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in Your Textile Operations...

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Chemicals for the Textile Industry

LIQUID CHLORINE

CAUSTIC SODA

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Soda Ash • Caustic Soda • Caustic Potash • Chlorine • Nytron
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...but TENNANT
-DRY-CLEANING
makes the difference!

What a contrast! An old, oil-soaked floor made 533% brighter . . . safer than before . . . and given a smooth, hard surface that resists dirt penetration —*all because it's dry-cleaned the* TENNANT *way.*

Gives you BRIGHTER, SAFER FLOORS . . . AT LESS COST

Are there dark, slippery floors in your mill due to prolonged wet-scrubbing? Then check these advantages of the TENNANT System:

RECONDITIONS your floors. Fast, easy-to-use Tennant machine brings your floors to life again! Gets rid of dark, rough, oil-soaked fibers . . . leaves floor bright.

HARDENS surface to resist wear. Special sealing process fills, binds and hardens wood fibers. Makes your floor resist dirt penetration . . . prolongs floor life.

DRY CLEANS, eliminates scrubbing. A fast, one-man job . . . with no mess or bother. Keeps floor lustrous, DRY, non-slippery. Enthusiastically approved by hundreds of mills.

WRITE TODAY for full information.

G. H. TENNANT CO.
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TENNANT
INDUSTRIAL FLOOR MACHINE

- Cleans floors, picks up soilage.
- Complete accessories for ALL your floor maintenance work.

Tennant Floor Machines have 12" or 16" revolving steel wool roll (or other accessory) that smoothly removes dirt and traffic stains. Very speedy and easy to use. Provides a smooth, dry, hard surface . . . saves man-hours.

ASK FOR ILLUSTRATED BULLETINS

on 0.90-hank with ball-bearing rolls on front line. We do not get any improvement in strength or advantages other than savings in oil and time to oil them. The life of the roll is short, the cost of the roll is high, and we don't think the savings would be enough to cover the extra cost.

Mill H: We have ball-bearing top rolls on the front line on 11x5½ slubbers on 1.10-hank, and on the front and second lines on 9x4½ intermediates on 1.30-hank. This installation has been in 5 months, and so far the service has been excellent. Oiling for these rolls is practically eliminated. We oil once every 6 months. There seems to be no change in evenness.

Mill I: Our Superdraft slubbers came equipped with ball-bearing front rolls. We are running 3.12-hank. While we know our yarn strength is some higher, we have not run any actual tests to confirm this. We are getting a much more even roving off of the Superdrafts. We oil these rolls once per six weeks with heavy roll oil.

Mill Q: We have been using ball bearing rolls on the front line of our long-draft roving frames for several years with good results. We have tried one set of ball bearing rolls on a 12x6 roving frame, running 0.625-hank roving and making 8.5s yarn. We could find no significant improvement in yarn uniformity.

Mill CC: We have three roving frames equipped with ball-bearing rolls on front line. These frames are on 0.23-, 1.37-, and 3.00-hank roving. Roving from these rolls was spun into yarns and tested on the seriplane. Yarn was more even than roving from arbor-type top rolls. Other advantages are no oiling, roll ends do not have to be picked, and there is no danger of oil getting into work and on aprons.

Mill DD: We have one frame on 4,000 hank equipped with Climax ball-bearing front top rolls. We found a slight increase in yarn strength. Other advantages are a saving in oil and labor of oiling, and less roll cleaning required.

Parts-Supply Room

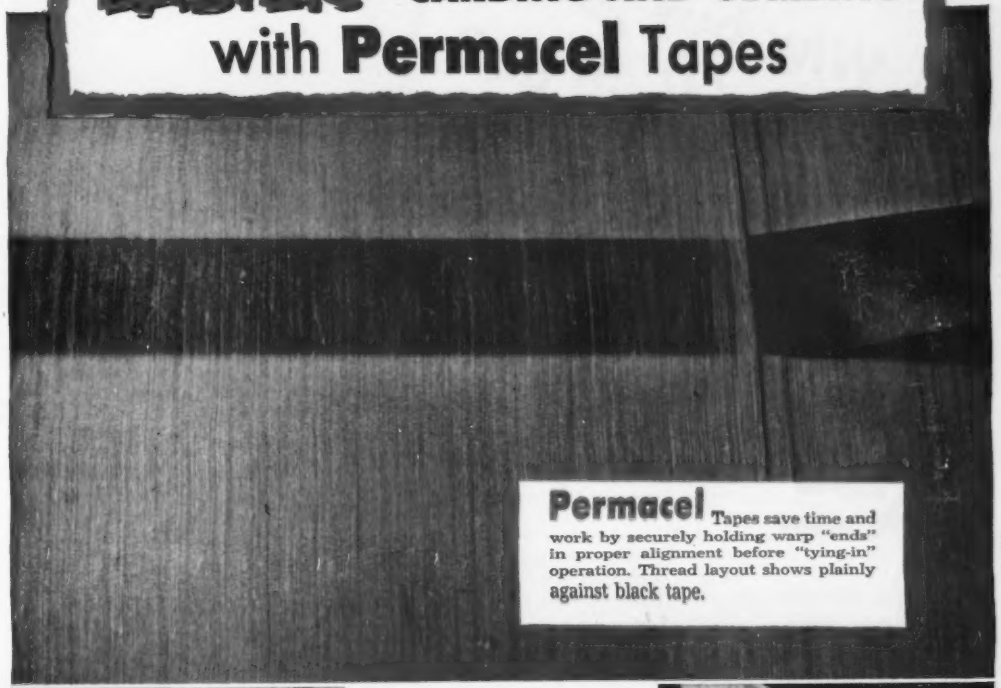
(Continued from page 112)

machines from being down for lack of parts.

Minimum level = (Number of parts used per day) × number of days required for parts to arrive) + (safety factor).

The safety factor is an arbitrary number of parts kept on hand to deal with emergencies. Depending on the

FASTER- WARPING AND WEAVING
EASIER- CARDING AND COMBING
with Permacel Tapes



Permacel Tapes save time and work by securely holding warp "ends" in proper alignment before "tying-in" operation. Thread layout shows plainly against black tape.

←EASY SHUTTLE LINING

Tape bits of fur in place with **PERMACEL** (adhesive both sides). No messy gluing...permits speedier weaving.

HOLDS TIGHT →

PERMACEL Tapes secure the last lap on rolls. Also used on "scavenger" bars to speed combing and carding.

PERMACEL-84 Stain-Resistant Flatback Paper Tape—used as slasher tape provides firm adhesion, flat surface.

PERMACEL-80 Double-Faced Paper Tape—used for adhering opossum fur to shuttles, coverings to scavenger and for starting rolls.

WRITE Dept. 14M for more information today.

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INDUSTRIAL TAPES

INDUSTRIAL TAPE CORPORATION • NEW BRUNSWICK, N. J.

makers of ® TEXCEL Cellophane Tape, and a complete line of pressure-sensitive tapes for industry.

DUO-STEP Leverage

It's startling news when a steam trap manufacturer suggests that you're using *too many* steam traps.

But if it takes *two* ordinary traps to do a job that can be done with *one* Clark Duo-Step, it's obviously a waste of money.

Here's how DUO-STEP doubles drainage capacity

Clark Duo-Step Leverage actually gives *double the drainage capacity* of old-fashioned traps. This saves you money three ways: (1) in original trap cost, (2) installation and (3) maintenance.

Ask your Clark representative for an eye-opener demonstration of Duo-Step on your own steam lines . . . or write us for additional information.

THE CLARK MANUFACTURING COMPANY
1835 East 38th St. • Cleveland 14, Ohio

Clark
THE HOME OF DUO STEP LEVERAGE

The complete line of dependable fluid controls

number of machines, it varies from five parts up.

Standard order (S.O.) = (Number of parts used per day) × (number of days inventory desired to be kept on hand) + (minimum).

The number of days inventory to be kept on hand is usually about 60 days, but this figure also can vary with mill policy. During the mobilization period it may be increased.

2. Keep fixers out of the supply room

Inevitable mark of a sloppy parts-supply room is the practice of allowing machine fixers to enter the room to get their own new parts. If this practice is permitted, all records kept will be useless, worn parts will be found in with new parts, and parts will be mixed up. Sooner or later, under such a system, machines will be stopped for lack of parts.

3. Pick a good man to run the supply room

In too many mills, the stock clerk that runs the stockroom, issues parts, and keeps records is on a level with the sweeper. The man picked to run the stock room should be a high-school graduate, able to keep records, able to understand and use parts catalogs, and able to order new parts properly. He should also, if possible, be a neat person who will insist on keeping parts in their proper places and not on the floor or elsewhere. The price of such a man may be higher than usual, but it's still cheaper than having machines stopped waiting for parts.

To get new parts when you need them . . .

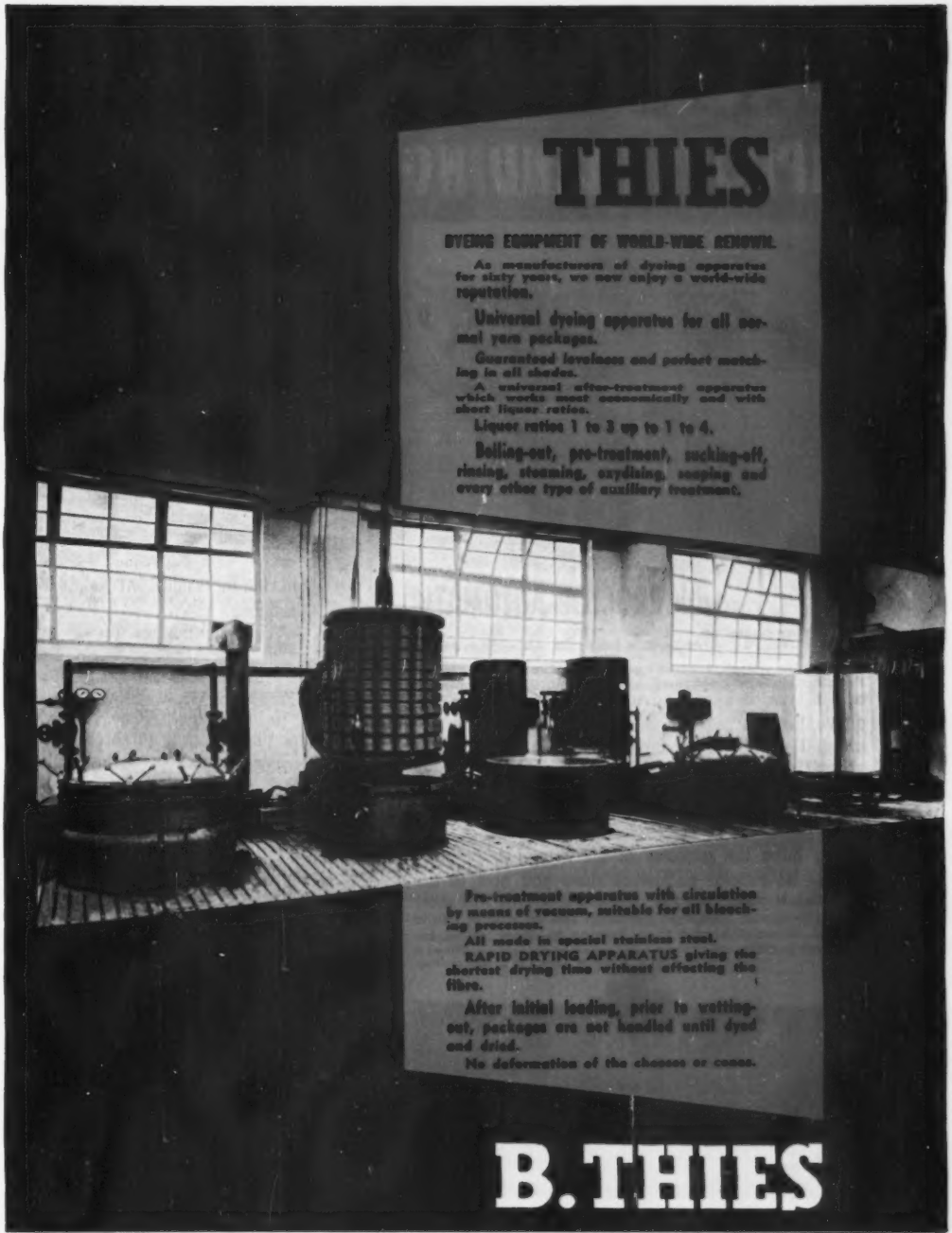
1. Use your machinery-parts catalog

In ordering parts, be sure to give clearly the quantity wanted, the full part number (including letters), and the full and correct part name as given in the parts catalog. Do not use local terms for part names, as "gooseneck" or "snakehead." Be sure to state whether LH or RH parts are wanted, if this applies. If you're ordering loom parts, orders can be processed more quickly if you state: "Wanted for looms of order number ....." If the order number is not available, give the width of the loom for all orders of lengthwise parts. So many looms have been lengthened or narrowed that this information is very valuable.

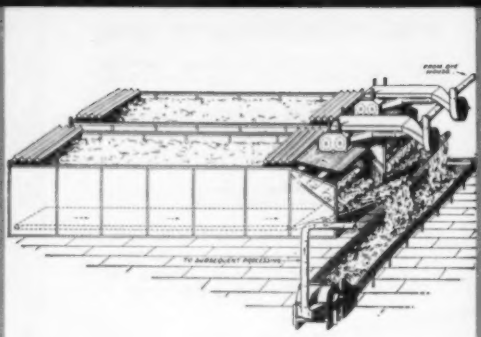
2. Be sure to give the government priority applicable

To insure having your order filled

For more information, write direct or use Reader Service post card.


THIES
DYEING EQUIPMENT OF WORLD-WIDE RENOWN.
As manufacturers of dyeing apparatus for sixty years, we now enjoy a world-wide reputation.
Universal dyeing apparatus for all normal yarn packages.
Guaranteed levelness and perfect matching in all shades.
A universal after-treatment apparatus which works most economically and with short liquor ratios.
Liquor ratios 1 to 3 up to 1 to 4.
Boiling-out, pre-treatment, sucking-off, rinsing, steaming, oxydising, soaping and every other type of auxiliary treatment.
Pre-treatment apparatus with circulation by means of vacuum, suitable for all bleaching processes.
All made in special stainless steel.
RAPID DRYING APPARATUS giving the shortest drying time without affecting the fibre.
After initial loading, prior to wetting-out, packages are not handled until dyed and dried.
No deformation of the cheeses or cones.
B. THIES
SPECIAL MACHINE FACTORY FOR DYEING AND BLEACHING PLANTS
COESFELD/WESTPHALIA, Western Germany

SLASH COSTS
IMPROVE BLENDING



with PROCTOR AUTOMATIC

EQUIPMENT *Engineered to your needs*

Automatic fiber blending, as accomplished by a Proctor system designed for your individual needs, brings with it many advantages. It eliminates the unevenness of manual blending, thus assuring an absolutely uniform mixture. It often makes possible greater use of lower priced stocks and because of the rigid control that is possible, still assures a finished blend of excellent quality. In some instances automatic blending reduces direct labor costs by as much as 75%.

If you have the problem of blending two or more stocks—let Proctor engineers show you how to accomplish it automatically. Concrete figures will show how automatic blending pays for the equipment in a matter of months and then begins to show up in increased profits. Much Proctor drying equipment and textile machinery is covered in full or in part by patents or patents pending.

CHECK YOUR SPARE PARTS SUPPLY

With the critical situation that is developing in most materials—coupled with the fact that you are going to want uninterrupted production—it becomes increasingly important for you to maintain a stock of vital parts on your shelves. Write for a list of suggested spare parts for your Proctor equipment—being sure to give the order number from the nameplate of your equipment.

PROCTOR & SCHWARTZ INC.

710 TABOR ROAD • PHILADELPHIA 20 • PA.

without delay, the order should state the government priority applicable.

The National Production Authority issued on Feb. 27, Regulation No. 4 covering maintenance, repair and operating supply requirements for industry in this country. This regulation permits you to certify your orders for maintenance, repair and operating supplies in the following manner.

"DO-97"
"Certified under N.P.A. Regulation No. 4"
BY:.....

This certification may be either on your order or a separate piece of paper attached to your order. The certification must be signed by the person placing the order or by individual who is duly authorized to sign for that purpose.

Affixing this certification to all orders for maintenance, repair and operating supplies will enable manufacturers to extend the rating to their suppliers to obtain the necessary materials to manufacture maintenance, repair and operating supplies for your mill. Failure on the part of mills to comply with this request will quickly exhaust the manufacturer's stock of raw materials.

This regulation also permits you to affix this certification to outstanding orders.

There are certain quantitative restrictions given in N.P.A. Regulation No. 4, and mills should secure a copy of this regulation so they will be in compliance. A copy of this regulation may be obtained at the nearest field office of the Dept. of Commerce, or from E. E. Vivian, Division of Printing, Dept. of Commerce, Washington, D.C.

3. Tell the date needed if it's for inventory

Lots of mills are stocking up on parts these days because they're worried about longer deliveries later on. If you're doing this, you can help the machinery maker and other mills if you state the delivery date on which you want or need the parts. Large orders for stockpiling upset normal parts-manufacturing schedules, and to fill your large order for parts you don't really need for three months may keep you or other mills waiting for parts needed right away. Another way of handling a large order is to request immediate shipment of part of the order, and the balance by some future date.

4. Don't mark the order "RUSH"

Since nine out of ten parts orders received by machinery makers are

For more information, write direct or use Reader Service post card.

marked "Rush," these orders must be handled in the order in which received. If your stock room is in good shape, you won't need "rush" orders. But if you really need a part in a hurry, send a telegram and request air-express shipment. Such orders will receive special handling.

Or if your mill needs a part immediately, state on the order "Ship quickest way" and leave method of shipping up to the part manufacturers.

5. If you want to stockpile parts . . .

If you'd like to stock up on parts for critical future times and don't know what to order, ask the machinery manufacturer for a list of recommended spare parts. Proctor & Schwartz, Inc., is offering such a list, and most other machinery manufacturers have lists that tell you quite accurately how many of which parts you'll need for a given number of machines over a given period. Since parts consumption varies widely from mill to mill, a conference with the machinery-manufacturer's representative may be the best solution.

Power-Plant Maintenance

(*Continued from page 143*)

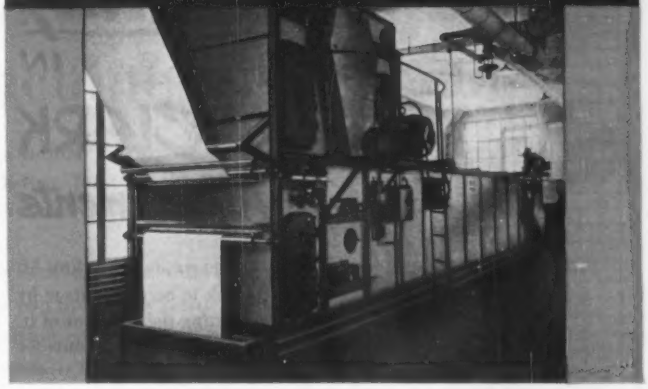
anticipated maintenance problems. This unit was the first commercial installation by the manufacturer and therefore possibility of maintenance problems were anticipated. With this in view, certain maintenance provisions were included in original purchase contract.

This flue-gas scrubber is based on the principle of trapping dust particles in a film of water which runs over a series of baffle plates suspended vertically in the gas stream. It is essentially a box installed in a horizontal flue and provided with openings on the front and rear to permit passage of gases through it. A shallow water tank closes the top of the scrubber and serves to support the baffles. The bottom of the scrubber is a rectangular basin that collected the water and entrained dust prior to their discharge to waste. The entire unit is erected on a structural-steel support.

The operation of the unit is simple and requires little attention. The water level in the supply tank is controlled by a float-operated valve. Water is admitted to the scrubber chamber and distributed to the entire surface of each baffle by orifices located in the bottom of the water tank. The baffles are of ribbed construction to permit the spread of water over the entire surface. The flue gases

CONTINUOUS VAT DYEING IMPROVED BY

OPEN WIDTH BLEACHING



Open width bleaching, as accomplished in the Proctor-Mathieson system, is proving ideal preparation for fabrics that are to be vat dyed in dark shades . . . fabrics of the type called for in many government specifications. With this system fabrics *in the open width* are gently conveyed through the caustic and peroxide steaming cycles. This combines the advantage of *continuous bleaching* with a *minimum of cloth pressure*. Packing and roping of the fabric is eliminated. Handling the fabric this way—in the open width, chafe marks, rope marks and other distortions which cause defects in continuous dyeing are eliminated. The result—bleaching time is reduced, costs are kept down, fabrics are dyed with greater ease—and you are in much better position to handle important government contracts.

Write for bulletin 346 which explains this system in greater detail.

Much Proctor drying equipment and textile machinery is covered in full or in part by patents or patents pending.

OTHER EQUIPMENT FOR DEFENSE CONTRACTS

Proctor engineers are keeping in close touch with government requirements and specifications on all lines of textiles. They are ready to assist any manufacturer in designing equipment to meet his special requirements.

PRIORITY INFORMATION

As priorities become the order of the day, Proctor & Schwartz are maintaining up-to-the-minute information . . . and will help any manufacturer in need of equipment for defense work to secure the necessary priority from the government to speed delivery.

PROCTOR & SCHWARTZ INC.

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For more information, write direct or use Reader Service post card.

MORE FOR YOUR MONEY .....IN CLARK Attachments

You employ your fork-lift truck to best advantage by getting the most out of it. CLARK attachments for CLARK fork-lift trucks enable you to do just that.

Interchangeable in most cases with standard forks, these attachments make a fork-truck *many machines in one*—a truck out of which maximum rather than just normal benefits are derived. And all this at a cost so low that it is quickly and painlessly absorbed.

To make the most of your fork-lift trucks—to discover uses for them that might not have occurred to you, check with your CLARK Dealer (he's listed in the Yellow Pages of your telephone book) or fill out the coupon below and send it to us attached to your business letterhead.

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AND POWERED HAND TRUCKS • INDUSTRIAL TOWING TRACTORS

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Name
Firm Name
Street
City Zone State

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entering the unit pass over five sets of baffles, so arranged as to permit ample contact of the gas with the wetted baffle surface. The wetted dust and the water are collected in the bottom and discharged to waste through water-sealed discharge nozzles.

The scrubber is made of materials designed to resist the corrosive action of acids and the erosive action of the fly ash. The first set of baffles were made of cast iron coated with an acid-resisting enamel. Several other metals, including Everdur and special alloys called Ni-Resist and Riloy, were tested. The cast-iron housing was lined with chemical tile set in acid-resisting cement. The water tank and basin were also made of cast iron painted with acid-resisting paint.

The baffles were the most vulnerable parts of the scrubber. They were subject to the erosive effect of the fly ash as well as the corrosive effects of the acid solutions formed in the scrubber. The initial cast-iron baffles painted with special acid-resisting baked enamel lasted, on an average, approximately 1,000 boiler operating hours, during which time 1,180 tons of coal containing 7.5% ash and 1.75% sulphur were burned. The cast-iron baffles were replaced with nickel-cast-iron alloy baffles.

These plates were inspected after approximately 4,000 hr. of operation, during which time approximately 1,650 tons of coal containing 7.5% of ash and 1.75% of sulphur were burned. While these plates showed wear, the effects were not alarming.

The manufacturer used ceramic baffles in installations at other plants with better but not complete success. Carbon baffles similar to those shown on Fig. 4 were installed in 1936. This material has been completely successful in withstanding the effects of acid corrosion and fly-ash erosion. Based on satisfactory performance of the carbon baffles as well as other potentially vulnerable parts of the scrubbers, it was agreed that the manufacturer had fulfilled his part of the contract, and the maintenance provisions were terminated.

Operating Practices Control Budget

Your maintenance budget can be raised or lowered, contingent on your operating practices. It is a well-known fact that excess fan capacity is a means of securing cheap boiler capacity. You all have seen stokers and boiler settings take terrific abuse from attempts to get maximum steam rates based on this premise. A well-stocked supply of tuyères and refractory shapes will help prevent fan trouble and

Let Hyatts Help Protect Your Machine Investment

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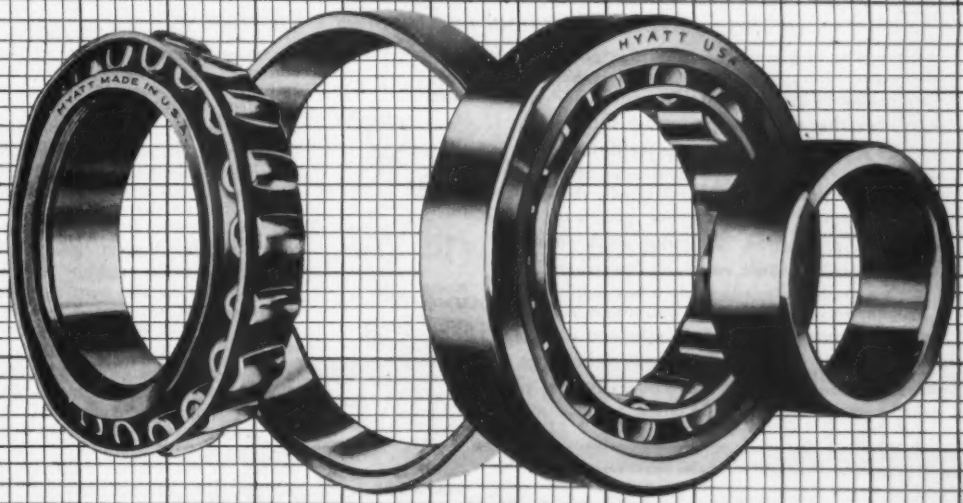

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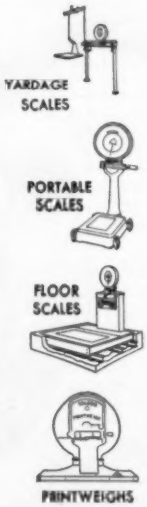
Today in your community you'll find Toledo as near as your phone; Toledo sales and service offices in more than 200 cities ready to help you in the selection or maintenance of scales vital in guarding your materials and costs.



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HEADQUARTERS FOR SCALES

accelerated depreciation on this steam generator.

In some plants, production demands impose this type operation on the station chief. They do not limit him, however, in tapping the full maintenance potentialities of a well-trained operating crew. These men can make or break your maintenance budget.

Attitude of Crew Key Factor

It has been my very good fortune that each of the chief power engineers responsible for our present plants have been really alive to these possibilities. To these men goes the credit for so educating the crews that these operators would be as greatly concerned as I if any situation got out of hand to such an extent as to require major repairs. This concern of the men is more important, we feel, than schedules and routines, because the value of these latter items is reduced unless the men are interested and take pride in their work. For instance, there are bearings in every plant for which scheduled lubrication is not enough. A close watch is necessary to avoid failure. We have our share of such bearings, and the operators responsible for them have acquired such as interest in them that if anything goes wrong, the men feel it is a personal affront to their watchfulness and ability.

To secure crews with this viewpoint, men are selected carefully with respect to intelligence and previous experience. Promotions are made from within the power-plant organization. We examine each new hire at the bottom of the list in view of his potentialities for becoming future chief power engineer. During normal breaking-in under the watchful eye of the shift foreman, the new man has for his guidance an operating and equipment data manual that tells him not only how to operate the equipment, but also what to expect from it. A formal course of instruction in power-plant operation is made available periodically to the men who want it. The supervisory-staff members act as instructors, and the double-barrelled advantages of extra thorough review of operating and maintenance considerations often develop new and improved maintenance procedures.

We select and train these men carefully because to us it has an important bearing on our over-all maintenance program. It is comparatively easy to hire competent men to repair practically anything that breaks down, but it is fundamentally necessary to impart to them a true understanding of the real reason for their employment and have them understand and carry

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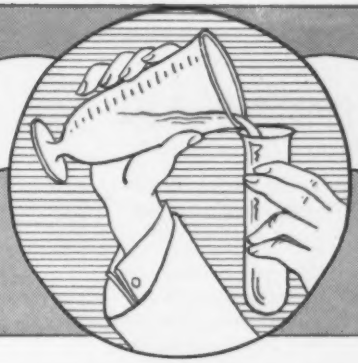

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out the basic principles of preventive maintenance.

How Maintenance Crew Is Organized

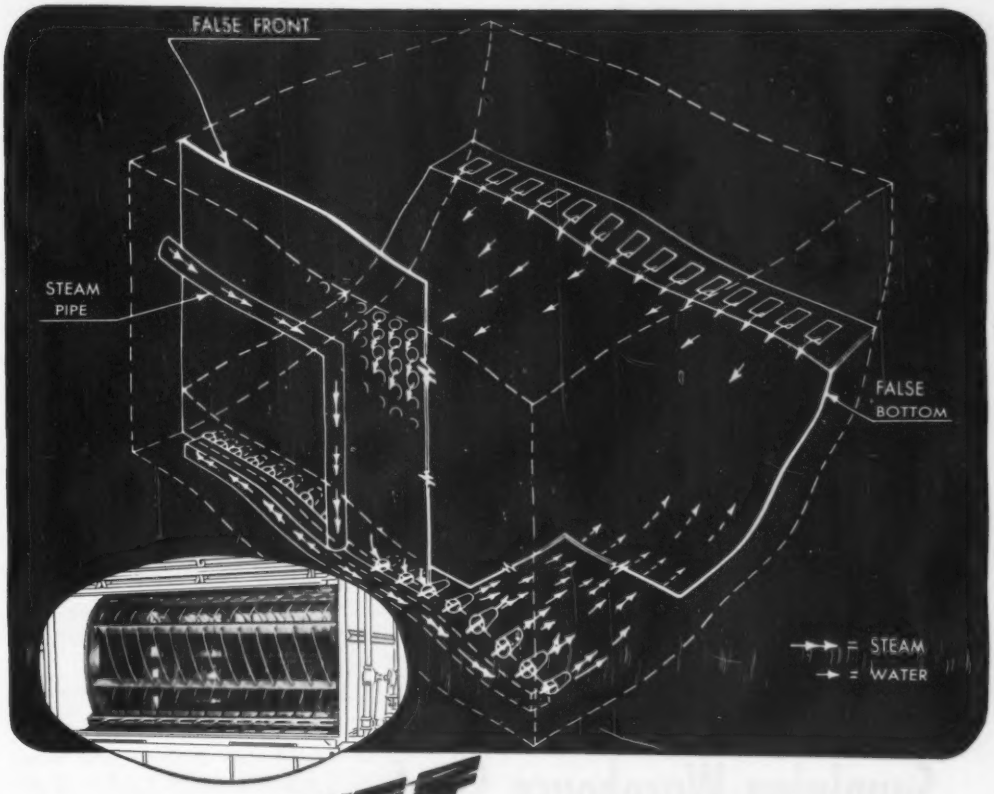
The organization for maintenance must be tailored to the requirements of the individual plant. In some plants the operators do all the maintenance work except that which requires skilled machinists and heavy machine-tool equipment. Other plants have a separate maintenance crew within the power plant, complete with necessary machine tools. We have made effective use of a combination of these methods.

We normally operate with a foreman and three operators, each assigned to and responsible for the condition of a specific operating area and specified equipment. A relief foreman and a relief operator function normally three days a week in the relief role and three days on maintenance. This relief pair augments the maintenance efforts of the operating crew. While the value of such training in upkeep and repair of equipment depends on the man, we believe it pays off well in the development of operators and in the upkeep of equipment.

Maintenance Schedule And Manuals

We use the maintenance schedule in effect as a road map to show us where we are headed. The master schedule covering other than routine repair work is as complete as experience can make it. It is flexible to meet production requirements, but it is changed only for definite reasons. The maintenance manual itself is more in the form of a complete file than a bound volume. It includes all the available information required for each individual piece of equipment. Manufacturer's prints and manufacturer's maintenance instructions are organized for use in the planning and execution of each scheduled servicing operation. A detailed description of operation is part of the file as a guide in any adjustment problems that may develop. The record of past repairs or maintenance work on each unit completes the file and serves as a guide in revision of the master schedule.

You all have observed that whenever the work is done in accordance with a pre-arranged plan, whenever the equipment is taken out of service for maintenance work, the men and materials ready, and instructions and other facilities available, the work is prosecuted rapidly and effectively. In cases when the unit must undergo overhauling or repair at an unexpected moment, when the need was not an-



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Would you like complete assurance of bright, clear, "on shade" colors? The new Hunter "JET" offers this and more! This entirely new dye kettle distributes the dyestuff through a number of jets to insure perfect balance and blending of colors, making it possible to maintain temperature levels accurately throughout the kettle during the dyeing cycle and boil-off period. The results are more uniform dyeing, a better product and less spoilage.

And then, try the new Hunter Herringbone Hump Reel. This unique design eliminates slip, chafe marks and channeling. It assures effective opening for everything from 7 oz. knit goods to 32 oz. Meltons. The new Hunter Herringbone Hump Reel is equally effective in the new "JET" or in your old kettles.

Progressive mills are cashing in on this new Hunter combination. *Write today for full details and specifications.*

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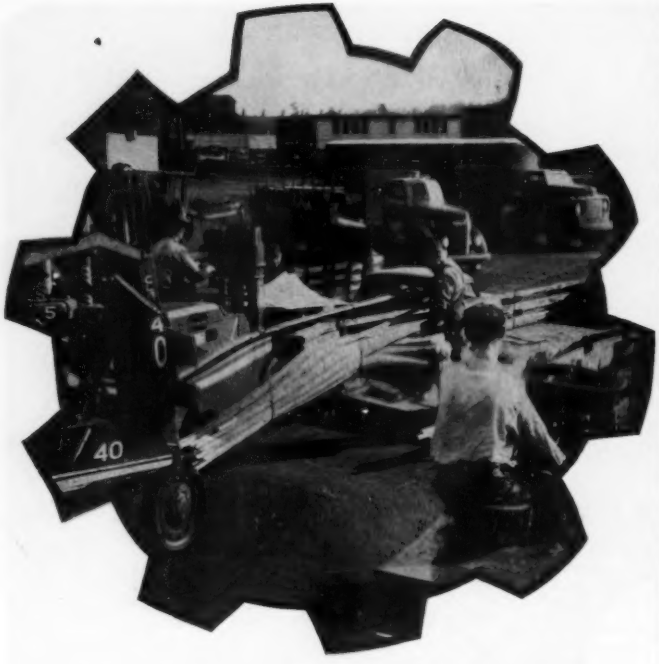

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ticipated, facilities, materials, and drawings not provided, and the best-fitted men not available, the job usually is not completed at all well.

Orderliness Is Related to Costs

The value of order is nowhere more evident than in power-plant upkeep and repair. We make each shift responsible for definite areas and equipment. The operator in that area on another shift will promptly spotlight a condition of equipment neglect if this causes himself extra servicing. I'm glad to give extra credit to my chief power engineer for the condition of our plants. He believes in the theory "it does not matter what you are doing, if you are working in dirt and disorder, your costs are higher than they should be."

W. F. Ryan, Engineering Manager of Stone & Webster Engineering Corp., with a wealth of experience in both the design and operation of power plants, once said, "Why waste time comparing what you did last month with what you did a year ago? Find out what your equipment is capable of doing and compare today's performance with that."

Aim your sights at upkeep, and major repairs will rarely cause you sleepless nights.

Homogenization

(*Continued from page* 137)

Generally speaking, yarns treated with homogenized size tend to produce clean breaks, mostly of the cup-and-cone type. Yarns treated with boiled size produce a majority of brush breaks with considerable roughing-up in evidence. These various types of breaks are interpreted as indicating that homogenized size causes the yarn to act more as a unit than as a loosely assembled mass of fibers. The results also lead to the assumption that breakage of a homogenized yarn occurs only after some slipping and some "give" caused by the elastic nature of the fiber bonding as contrasted with a heavy coating or cementing noted with boiled size.

Percent Size Added

One of the bases of this study was that the viscosities of both the homogenized and the boiled size would be the same. It is interesting to note that the actual solids deposited on the yarn were not the same, even though the viscosities were accurately measured and known to be equal. Results are summarized in the accompanying table "Percent Size Added."

It is risky to base much on such a small test, but it does appear that homogenization can cause a change in weight added in sizing.

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Wyandotte Rayon Grade Caustic Soda is purer than most reagent grade caustics. And yet you pay no more for it. But that's just half the story. Because this Wyandotte Caustic is naturally pure. Produced by the Mercury Cell process, it needs no special purifying treatments.

One company we know of used to buy a regular grade of caustic and then they had to purify it. Now they buy Mercury Cell Caustic and pocket substantial savings.

Wyandotte Mercury Cell Caustic is free from sodium chloride, sodium chlorate, iron and practically all other impurities. It is shipped in specially lined tank cars, arrives ready for use without further processing.

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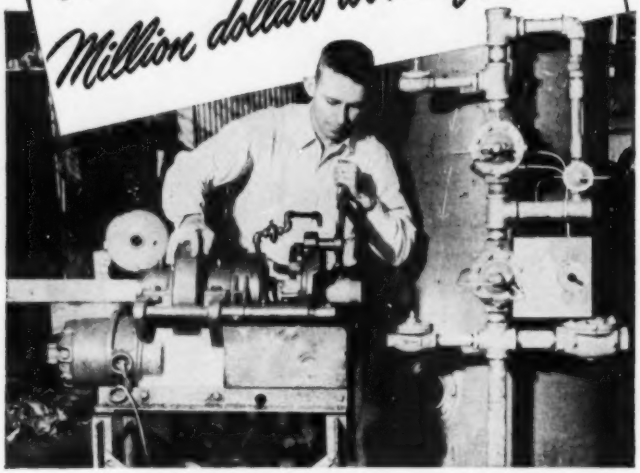

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"We use a Toledo #999 2" Pipe Machine daily in fabrication of our water treating equipment," says E. B. Hudson, Jr., president of Hudson Water Softener Corp., San Antonio, Texas. "It has cut the threads on over a million dollars' worth of pipe since August 1931."

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This machine makes friends with users everywhere! *Speeds production . . . cuts costs!* Threads 2" pipe in 22 seconds . . . cuts off 2" pipe in 10 seconds. Compact . . . portable . . . efficient . . . use it anywhere in your shop, plant or on the job. Your choice—Wheel or Knife Cut-Off. Toledo-built dependability. Write for catalog. The Toledo Pipe Threading Machine Co., Toledo, Ohio. New York Office: 165 Broadway, Room 1310.

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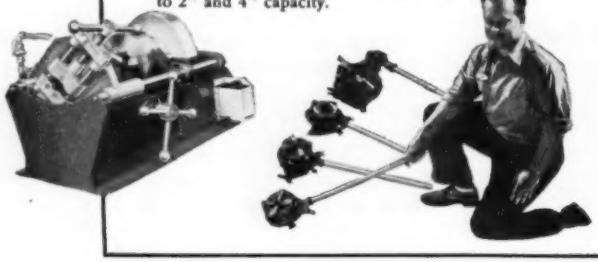
Tool up *right* with TOLEDO! Hand tools, all pipe sizes, ¼" to 12" and ¼" to 1" bolts. Power pipe machines, up to 2" and 4" capacity.



RELY ON THE LEADER

TOLEDO

PIPE TOOLS...POWER PIPE MACHINES...POWER DRIVES

Handling Cashmere

(*Continued from page 139*)

depending upon the region. Cashmere wool is also collected from the underbrush in the path of the feeding herd where it is found in small locks torn from the pelts of grazing goats passing by.

The total yield of the wooly undergrowth, whether combed out (a process better known as plucking) or collected from the feeding places, is only a few ounces of wool annually from each animal. The small yield is one of the main reasons for the high price of cashmere wool. It may take a yearly yield of up to 30 animals to produce enough cloth to make one overcoat. In harvesting the wool, it is impossible to avoid some coarse, outer guard hair from attaching itself to the fine down.

It is generally difficult to distinguish between Persian and Chinese cashmere. However, a connoisseur differentiates strictly between the fibers which come from the goat that originate in the Western sections of China and Tibet and which is strictly known as Chinese cashmere, and the hair which is derived from the goats that originate in Mongolia and the far Northern sections of China, and is known as Mongolian cashmere.

Chinese cashmere comes only in white, cream, buff, gray, and dark brown. Persian cashmere offers white, cream, light gray, fawn (reddish), dark brown, and black varieties of natural colors. An exact definition of which part of the animal's body the various colors come from is not possible, since the color of the goats vary from pure white to fawn and even black with the various regions, climatic conditions, and feed.

The color of the cashmere hair does not influence its length. When processed under identical conditions, all Chinese down, regardless of color, will have more or less the same length. The same is true of the Persian, which, however, is about ½ in. longer in all colors than either the Chinese or the Mongolian. The average length of a cashmere fiber is quite short, averaging from 1½ to 3 in., which puts it into the same class as the wool fiber produced from the American Merino sheep. (The Australian Merino, however gives a fiber from 3 to 5 in.).

The quality of the finest down ranges from the Chinese to Mongolian, and then Persian. However, while the value of the down is determined by such desirable characteristics as color and fineness, the price, of course, is also determined by the total amount of yield of the desired fine down from the total amount of

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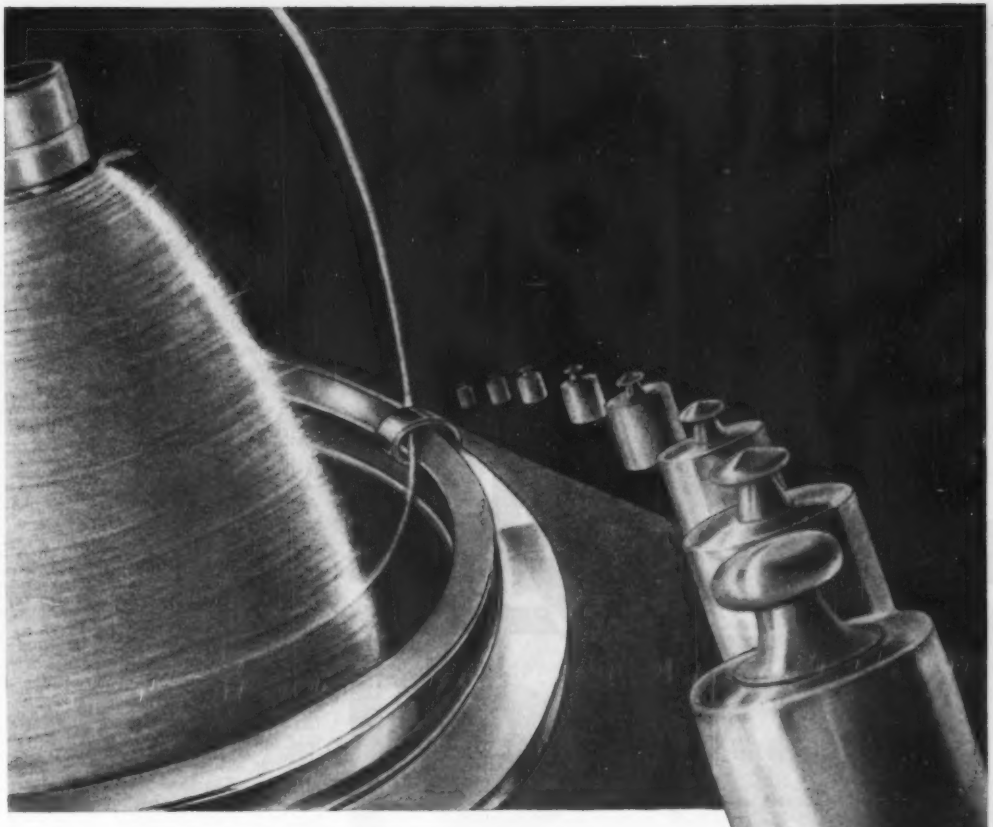

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On the scale, a No. 1 Traveler weighs 1 grain, but riding the rings at today's high speeds, it exerts an amazing "pull".

By applying simple dynamic principles to known factors, the centrifugal force can be calculated. For a No. 1 Traveler operating at 9600 r.p.m. spindle speed on a 2½" ring, this force is 3250 grains — almost half a pound!

Consider how this intensifies conditions of wear and friction. You'll see how important it is to choose travelers of the proper balance, temper, and finish to withstand this punishment without interrupting the smooth flow of yarn production.

Victor Travelers are made to serve longer — to deliver more pounds of yarn per traveler — under the toughest conditions. That's why they are first choice of economy-wise mill men for more than 10,000,000 of today's hard-working spindles.

Whether you are running conventional fibers, synthetics or blends, talk to a Victor Service Engineer about your traveler problem. Write, wire, or phone the nearest Victor office . . . for prompt service.

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the originally available "dirt condition."

Yield of Fiber

The cashmere, as packed by the shipper, has already been submitted to a preliminary cleaning. While the sheep's wool as shorn from the sheep has up to 50% grease attached to it in addition to impurities, cashmere is "dry" and will only have a maximum of 20 to 30% greasy matter and natural impurities, such as dandruff, after the preliminary willowing and dusting is done.

The maximum yield of fine down from the original dirt conditions, after dehairing, is as follows: Mongolian—30%, Chinese—35%, Persian—50%.

Of course, the yield depends on the amount of cleaning to be done for the ultimate use. If one wants to manufacture fabrics for use close to the wearer's body, as, for instance, sweaters, then the dehairing has to be done more thoroughly than if the cashmere is to be used in the manufacture of coats. The extent of dehairing required also depends upon what appearance and handle the garment is supposed to have.

Cashmere, even when free from natural impurities such as grease and dust, is not appealing, since, as mentioned before, the cashmere known to the consumer is made up only of very fine, silky, hair of the down. After scouring, coarse guard hairs are still present. Therefore proper elimination of this hair is one of the major problems of manufacture.

As cashmere hair is not shorn from the animal as sheep's wool, but is pulled out and plucked, some hair will still have the roots attached. This characteristic of the cashmere fiber can easily be detected under the microscope. In pulling the hair from the animal, a great amount of scales from the skin and dandruff comes loose. Since the dandruff is not loosely attached to the hair and has the same chemical composition as the fiber itself, its elimination, accomplished by physical means only, is one of the greatest problems. This necessary cleaning of cashmere is achieved through dehairing methods.

The dehaired fibers processed from dark Persian fleeces are much finer than those processed from light gray or white fleeces. These dark fibers can, under certain circumstances, be blended with dehaired Chinese cashmere, if desired. Dark Persian cashmere is very fine but difficult to clean.

Physical and Chemical Properties

While most of the chemical characteristics of cashmere are quite similar to ordinary sheep's wool (varying only

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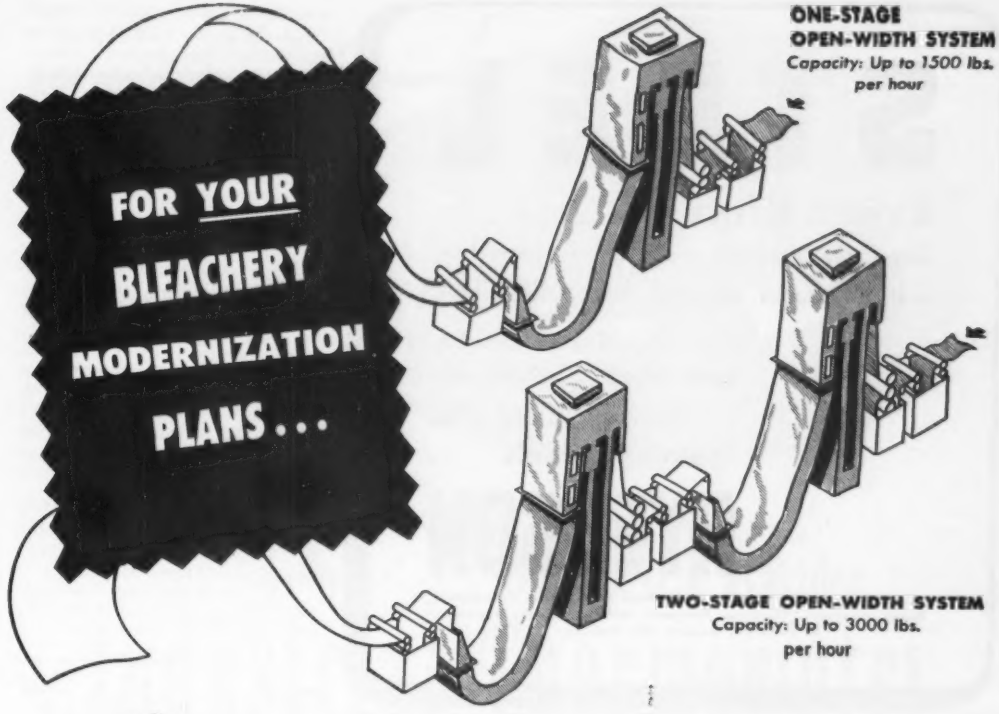

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Capacity: Up to 1500 lbs. per hour

TWO-STAGE OPEN-WIDTH SYSTEM
Capacity: Up to 3000 lbs. per hour

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Let us tell you more about these cost-saving systems. We don't build or sell the equipment. But our Technical Service can help you select the right bleaching system for your requirements of production, type of fabrics to be bleached, utilities, and other economic factors. Bleaching specialists will help you survey your production facilities, make specific recommendations on equipment, give estimates and operating costs. After you decide on a system, Du Pont Technical Service representatives located in leading textile centers will help you start operation and train your technical and operating personnel. This service in no way obligates you.

For further information on Du Pont Continuous Peroxide Bleaching Systems, send the coupon below.

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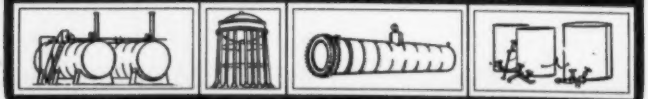

TANKS TOWERS CYLINDERS VESSELS

generally in greater sensitivity toward alkalis and acids), it differs greatly in its surface characteristics. Consequently, cashmere reacts differently to certain physical processes. Apart from greater sensitivity to the various mechanical processes and chemical influences and its shorter length as distinguished from wool (or most animal fibers), the cashmere fiber also has an almost smooth surface. While the sheep's wool fiber is covered from top to bottom with scales arranged like roof shingles, the cashmere fiber has very few scales. And since most of the feltability of sheep's wool is believed to be due to an interlocking of the scales of the various fibers, it can readily be deducted that cashmere has a poor feltability. These physical properties cause problems for the manufacturer and determine most of the processes to follow so as to produce apparel of beauty and wearability at the same time.

Considering the fineness of the hair, it is clear, that, in an equal weight, the total fiber surface is about twice the size of that found in wool.

A picture of the size of the cashmere fiber can be obtained from the following table:

Wool Grades	Avg. Diam. (microns)
36s	40
48s	32
62s	24
70s	21
90s	17
Cashmere	
Chinese	14.8
Persian	19.5

From this table it can be seen that the Chinese cashmere is finer than the finest wool fiber. Persian down is in the same range as the fine wools which are more than 80s. It must be mentioned, however, that the Cashmere is more uniformly fine than the wool, as wool often varies over a great range even though its average size may be quite low.

It is obvious that if fabrics having the same weight per yard are made from wool and cashmere, the cashmere fabric will give more warmth to the body of the wearer than a wool fabric of similar construction. Therefore, conversely, it is sufficient to construct a cashmere fabric of lighter weight than a corresponding wool fabric when the same warmth as in the wool fabric is desired.

Dyeing, carding, spinning of Cashmere

In dyeing cashmere, because of the greater fiber surface, it is not at all surprising that up to twice the amount of dyestuff is necessary to obtain the

(*Continued on page 296*)

from precise laboratory measurement to complex temperature control . . .

WESTON provides Industrial Thermometry

. . . in these many forms!

LABORATORY
Weston All-Metal
Tagliabue Glass

INDICATING
Tagliabue Glass
Weston All-Metal

REMOTE INDICATING
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Tagliabue Mechanical
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The leader in precise electrical measurement for over 60 years now leads in thermometry, too. Precision glass thermometers for critical laboratory testing . . . rugged and readable all-metal industrial thermometers . . . electrical thermometers that reveal accurate temperatures from distant places . . . thermometers that provide a continuous record . . . and sensitive devices that exert continuous, dependable control over complex processes. Thus, for practically all temperature problems, industry is finding the same scientific solution with Weston Temperature Instruments it has always experienced from other instruments bearing this great name . . . Weston Electrical Instrument Corporation, 637 Frelinghuysen Avenue, Newark 5, New Jersey . . . manufacturers of Weston and Tagliabue instruments.

WESTON WESTON TAG
Instruments

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Absolutely uniform and dependable. Careful quality control assures maximum performance in your mill.

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The Hubinger technical staff and laboratories are widely recognized for their thorough and practical knowledge of the use of starch for textiles. Their experience assures you of the *best* product, *tailor-made* to fit *your specific needs*. Consult us on any production problem—at no obligation, of course.

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French Rub Aprons

For French Drawing Machinery we have specialized in custom-made sets . . . matched for uniformity for each individual machine . . . flexible waterproof splices . . . spiral groove cut to uniform depth . . . leather selected for density . . . aprons conform to shape of boss without use of guides . . . a quality apron for high-quality yarns.

"For Those Who Want The Best"

Manufacturers of Leather Textile Specialties Exclusively

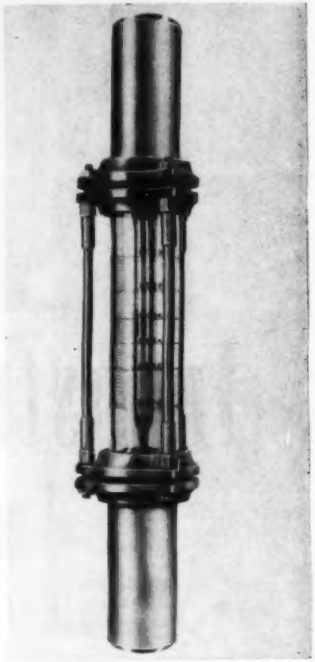
HAY
JAMES E. HAY
LEATHER CO.
244 SMITH STREET • LOWELL, MASS.

TEXTILE *Equipment* NEWS

(Continued from page 160)

complete line of brackets to mount the bars on various machines, particularly in the textile industry where static electricity is so troublesome.

Specific-Gravity Instrument Gives Direct Reading

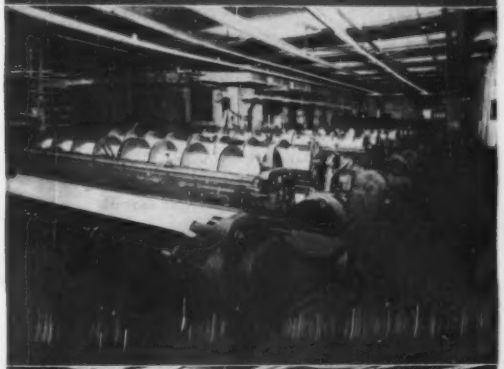


SPECIFIC GRAVITY, an important factor in several processes, such as mercerizing, etc., can be read directly from the scale of this new instrument that has a totally submerged measuring element.

A new, direct-indicating Densitrol specific-gravity measuring device has been added to the line of liquid-density measuring instruments made by Precision Thermometer & Instrument Co., 1400 Brandywine St., Philadelphia 30, Pa. Designed to eliminate the error caused by liquid and gas interface in usual hydrometers, this instrument can be used not only where periodic checks of liquid density must be made, but also where process peculiarities, such as excessive corrosiveness, inflammability, etc., prevent the drawing of samples from the system. The instrument operates as a simple by-pass in any liquid line or vessel, and specific gravity may be

Meinig's
3 TRICOT SECTIONS

100% REINER EQUIPPED



Fabric Quality begins with the machines producing it. Nobody is more fully aware of this fact than the management of the E. Richard Meinig Co., pioneers in the warp knit field since 1905. They have earned a fine reputation as producers of quality tricot and simplex goods—and so have Robert Reiner, Inc., as manufacturers of Tricot, Simplex and Raschel Machines, also Warpers and Creels—in short, a complete line of warp knit mill equipment.

We are proud of this all-Reiner Tricot installation at the Meinig mills. They include 2 and 3 bar machines—economic, versatile and fast producers with an unlimited pattern range. Available: 2 and 3 bar, including heavy material, long needle models, all gauges. Newest features.

The market for warp knit fabrics is steadily expanding. New fibres are ready to serve new needs and new markets. Be sure to benefit from this profitable trend by installing machines of mill-proven excellence and top quality production—tricot machines made famous by Reiner.

A richly illustrated catalog is yours for the asking.

The Reiner Line Includes:

Simplex (Double Knit) Machines—Kayloom Machines—Raschel Machines—Full Width and Sectional Warpers—All types of Creels—Four Section Full-Fashioned Hosiery Machines (up to 66 gg.) —Automatic Schiffli Embroidery Machines (10 and 15 yards)—Bobbin Winding Machines (for Stitching and Quilting)—Ready Spare Part Service for all Reiner Machines.

FOUNDED IN 1903

ROBERT REINER INC.

550-564 GREGORY AVENUE
WEEHAWKEN, NEW JERSEY

10 MINUTES FROM TIMES SQUARE. Take Bus Nos. 61 or 67, from Platform No. 60, Port Authority Bus Terminal, 41st Street and 8th Avenue, New York City. Get off at Pleasant Avenue, Weehawken, New Jersey. From there turn left and walk through the underpass up to Gregory Avenue. . . TELEPHONE UNION 7-0502, 0503, 0504, and 0505. From New York City call LONGACRE 4-6882

They give you better production and softer, smoother, faster-selling knitting.

Scientifically developed to meet the needs of knitters of quality hosiery, underwear, and outerwear, Laurel Products have won an outstanding place as processing agents for all fibers. Among the better known for their performance are these—

Laurel Processing Agents for Knit Goods
dye — bleach — finish

Laurel Hydrocop & 3B Softener • Laurel Brand Soaps
Laurel Textile Oil • Laurel Synthetic Detergents
Laurel Hydrosol • Laurel Nylon Finishes
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Laurel Yarn Conditioning Oils
Laurel Knitting Machine Oil
Check with us for practical recommendations

textile soaps, oils, finishes
LAUREL SOAP MANUFACTURING CO., Inc.
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Bendix Friez MAKES the RIGHT INSTRUMENT at the RIGHT PRICE for EVERY JOB!

Model 185 Hygrodial
Precision Humidity and Temperature Indicator
Hair-operated and calibrated to professional standards of accuracy by the maker of the world's finest weather instruments. Handsome, modern case—4" high, 5½" wide, 1⅝" deep.

Model HA/2
Hand Aspirated Psychrometer
Accurate readings obtainable without special skill. Psychrometric readings can be taken at any point desired however inaccessible.

Model 160
Portable Humidity and Temperature Recorder
3" x 5" charts, 10 or 30 hour records. Modern design...handy for small space and difficult locations ... built to meet unusual conditions.

Model 594
Hygrothermograph
The foremost relative humidity recorder for laboratory, factory, and office use. Scientifically designed for accuracy and dependability.

Model 573
Motor Aspirated Psychrometer
Designed to determine wet and dry bulb temperature with laboratory accuracy—Motors supplied for use on 115 V., 50 cycles or 60 cycles.

Model S/1
Pocket Sling Psychrometer
A small, low cost instrument. Thermometers graduated in 1° increments from +35° F to +110° F. Furnished complete with case and psychometric slide rule.

Model 550
Sling Psychrometer
Manufactured to U. S. Weather bureau specifications. Thermometers graduated in 1° increments from —20° F to +120° F, or —35° C to +49° C.

FRIEZ INSTRUMENT
DIVISION OF
3418 Taylor Avenue
Baltimore 4, Maryland
Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.
Bendix AVIATION CORPORATION

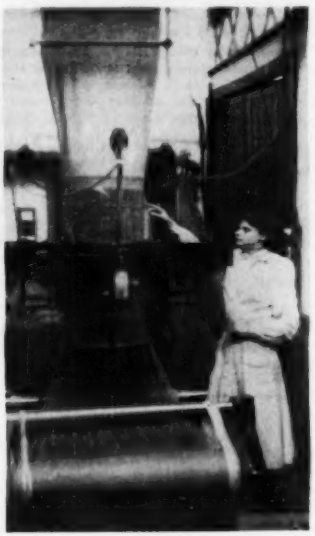
read directly, as required.

The instrument uses a totally submerged, chain-weighted plummet as the measuring element. The plummet is self-centering, operates without friction, and will not stick to the sides of the chamber. The reading scale is marked boldly and is read across a single reference line on the plummet. Length of the scale is 5 in. In common with other Densitrol forms, liquid can be passed continuously through the instrument.

Models are available with or without a thermometer, calibrated directly in terms of temperature correction, that is mounted on the chamber.

Suitable for high- or low-temperature or vacuum service, the instruments can be constructed from a wide variety of materials and are suitable for either clear or opaque liquids. Any calibration, E. G. Baumé, specific gravity, °API, can be furnished within the range limits of 0.2 to 0.005 density or equivalent full-scale change.

Circular Loom Designed For Jute-Bag Weaving



TWO WARP BEAMS and two shuttles are used in this circular jute loom.

A circular loom for weaving coarse fibers, especially jute, has been developed by Fayolle & Cie., 106 Cours Emile Zola, Villeurbanne (Rhône), France. The loom produces a plain-weave tube for bags about 23¼ to 31 in. in flat width. Speed of the loom is about 150 picks per min. At this speed, tests are said to show one stop

Where quality

is the

first consideration

in a fabric

there is

no substitute for

Celanese®

Acetate Rayon Yarn

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CELANESE CORPORATION OF AMERICA, 180 MADISON AVENUE, NEW YORK 16, N. Y.

RUGGED in design ... LIGHT in weight!

MILTON GIVES YOU TRUE DIMENSIONAL STABILITY without objectionable deflection or distortion!

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WITHSTAND EXCESSIVE PRESSURES

MILTON NYLON & RUBBER TRICOT BEAM

Forged, heat-treated aluminum alloy heads and barrels permanently joined with continuous heliarc welds.

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permanent mold TRICOT BEAMS

SECTION BEAMS

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DESIGNERS — ENGINEERS — MANUFACTURERS

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SPECIFY ... DRUMMOND

SOAP

FLAKES

Either leaves Fabrics

CLEANER .... SOFTER .... MORE COLORFUL!

A real saver! Use either Drummond SOAP or FLAKES and end, once and for all, your scouring and finishing problems! Drummond leaves fabrics spotlessly clean ... soft ... more colorful!

Today, when you are watching costs more than ever, they fit into the "saving" column in a way that spells DOLLARS and PROFITS ... and you will be more than pleased with how much either save you. High body and low alkali content is the secret, and that is DRUMMOND.

So that you may learn the full advantages of DRUMMOND, we will send you free, upon request, a generous sample of either SOAP or FLAKES. Test it yourself and see if DRUMMOND doesn't leave fabrics clean with a downier feel, brighter bright, and whiter white.

GET YOUR SAMPLE TODAY

Standard Soap Co. of Camden

205 South 2nd St. CAMDEN, N. J.

James A. Greer, Southern Manager P. O. Box 306, Greenville, S. C.

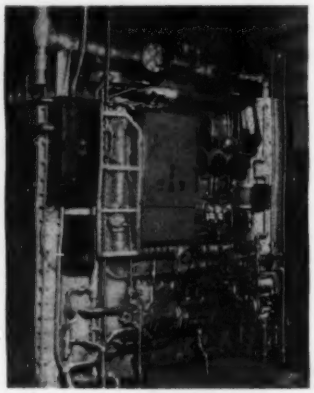
for yarn breakage every 2 hr. The loom has both filling and warp stop motions.

The two shuttles in the circular loom are drawn by magnets, roll on four rollers, and hold two cops of yarn. A 500-gr. cop is said to last 17 min. Time required for changing cops is said to be 15 sec.

The company states that one operator can run six looms, or more if efficiency required is not over 75%. Power required is 1 hp.

Price of the loom, in France, is 600,000 francs (about $2,000).

Steam Plant Features Compactness, High Efficiency



***MAXIMUM OUTPUT** in a minimum of space is the principal feature of this steam generator, shown here installed in a textile mill.*

A compact, reliable steam plant is now being offered by Combustion Engineering—Superheater, Inc., 200 Madison Ave., New York 16, N. Y. Known as the C-E recirculation steam generator, it is a complete steam plant that includes feedwater pump and control, fuel equipment and control, combustion control and safety devices, forced-draft fan, safety valves, circulating pump, and other auxiliaries. The generator may be fired by light or heavy fuel oil or by natural gas. It is available in several sizes for steam capacities from 2,800 up to 6,000 lb. per hr. and for operating pressures up to 300 psig.

The generator is particularly applicable where one or more of the following conditions apply: where high pressure steam is required in relatively small quantities; where steam is required in remote locations, normally involving the expense of installing and maintaining long insulated pipe lines; where demands are intermittent —a few hours each day or week; where an occasional emergency load

for *extra* capacity and *extra* precision!

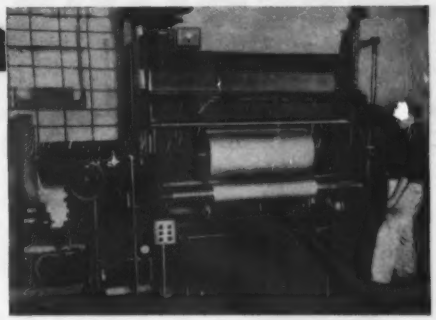
"EVERYONE KNOWS that production problems are rapidly mounting in the paper making and printing industries. Now, more than ever before, we can't afford to waste either time or materials. The recent addition of new equipment to our plant provides that *extra* capacity which is needed to keep a step ahead of the pace—so that each job can be handled with *extra* care to avoid waste."

Mr. Arthur G. Nelson, President
A. G. Nelson Paper Co., Inc., New York, N. Y.

NELSON's reputation has been built through more than thirty years of service in supplying accurately rewound paper rolls and sheets for the printing industry of Metropolitan New York. The A. G. Nelson plant, completely equipped with modern slitting, rewinding and sheeting equipment, also serves as a finishing room for paper mills.

High-speed web-fed printing presses call for absolutely true slitting and rewinding to assure the uniform web tension which minimizes web breaks, and to provide more accurate lengthwise and sidewise register on the travelling web. Because they are backed by more than thirty years of know-how in roll production it is not surprising to find the A. G. Nelson Company plant equipped exclusively with *Camachine* slitters and rewinders.

Over the years *Camachine* has proved to be the *one* outstanding name in roll production equipment . . . for rubber, textiles, plastics and other materials, as well as for paper and paper board. No matter what material you produce or convert in roll form, it will pay you to consult with *Camachine* engineers regarding faster production and improved roll quality.



The Camachine Type 10 Model 04 slitter rewinder recently installed at A. G. Nelson Company is equipped with: Camachine 1B-PMR pneumatic mill-roll stand; electric riding roll lift; and Pneucut patented pneumatic slitter units. Handles 72" rolls at 2000 feet per minute. Rewound diameters to 40".*

*Trade name reg. U. S. Pat. Off.

Cameron Machine Co., 61 Poplar St., Brooklyn 2, N.Y.

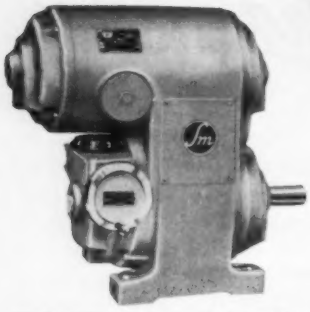
They can depend on Camachine®

AA-238

power modernization

lowers production costs...

with control of speed



STERLING SPEED-TROL

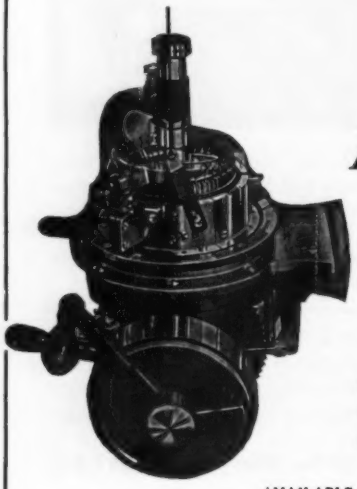
. . . Gives You Variable Speed Control Necessary For:

- **PROCESS CONTROL OF:** Temperature—viscosity—level—pressure—flow—etc.
- **TIME CONTROL OF:** Baking—drying—heating—cooking—pasteurizing—soaking—chemical action—etc.
- **EQUIPMENT ADAPTATION TO:** Load variation—sequence synchronization. Size—tension—hardness or shape of materials to be processed—machined—conveyed—blended—mixed—etc.
- **VARIATIONS IN:** Quality—quantity—operators' abilities—etc.

Ask for your copy of pictorial bulletin No. 6-72 showing Sterling Electric Power Drives Turning The Wheels of Industry.

STERLING ELECTRIC MOTORS

Plants: New York 51, N. Y.; Los Angeles 22, California; Hamilton, Canada; Santiago, Chile.
Offices and distributors in all principal cities.



Argyle production

AT

MINIMUM **COST**

HARLEY-KAY-MARSLAND

SEMI AUTOMATICS ARE PRODUCING ARGYLES EFFICIENTLY IN MILLS THROUGHOUT THE WORLD

AVAILABLE IN

4" DIAMETER 80-112 NEEDLES
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Complete Range of Accessories—For Information Write

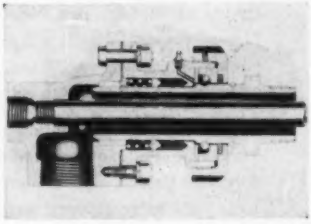
GEORGETOWN HARLEY-KAY-MARSLAND LTD. ONTARIO
ESTABLISHED 1906
CANADA

may exceed the capacity of existing boilers; where load is highly fluctuating and involves sudden heavy demands necessitating fast pick-up; where completely automatic operation with a minimum of attention is necessary or desirable; where space is a problem, or where maximum output from minimum space is desired.

Most notable feature of the generator is its compactness. The 6,000-lb. capacity unit for burning light oil or gas occupies a space 6 ft. 11 in. long x 5 ft. 5 in. wide x 6 ft 11 in. high. The heavy-oil-burning unit is only slightly larger. Compared to small conventional water-tube boilers of modern design or present-day package-type fire-tube units, the generator is said to produce three to four times as much steam per cubic foot of space occupied.

This steam generator uses the controlled recirculation principle. The high rate of heat transfer made possible by the use of this principle permits maximum steam production per unit of heating surface and thus makes possible maximum steam output per unit of space and weight. Moreover, controlled recirculation is said to assure positive circulation throughout all heating surfaces, virtually eliminates scale formation, and permits higher operating efficiency.

Improved Revolving Joint Promises Power Savings



***LOW TORQUE** and ease of replacement are features of this improved-design revolving joint.*

volving joint for use in making piping connections to drum-type dryers, rolls, calenders, and other rotating equipment has been developed by Barco Mfg. Co., Dept. J-53, 1801 Winnemac Ave., Chicago, Ill. Designated as type IBR, the new joint is characterized by extremely low torque and offers substantial power savings. Models are available for handling steam, oil, air, water, gas, and chemicals.

The rotating portion of the joint consists of a special precision-machined and heat-treated steel tube which screws into the hub of the drum or

How much do you know about TAPES?

How do workers speed warping by feeding "sandwiches" to the loom?

Why should locating slivers no longer get "under your skin?"

What's the simplest way to start things rolling on a "Simpson" shell?

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And you'll see, too, how these tapes can save time and money in your plant. New applications may suggest themselves to you—new ways to save.

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The term "SCOTCH" and the plaid design are registered trade marks for the more than 100 pressure-sensitive adhesive tapes made in U. S. A. by MINNESOTA MINING & MFG. CO., St. Paul 6, Minn., also makers of "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives.

General Export: Minn. Mining & Mfg. Co., International Division, 270 Park Avenue, New York 17, N. Y.

DARY
Ring Travelers

ONE TRAVELER

Is Worth 1,000 Words!

A switch on the old Chinese proverb—but in the case of Dary Ring Travelers, absolutely true!

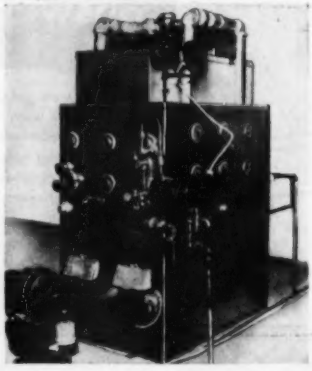
The performance of one *Dary Ring Traveler*, under any and all spinning conditions, will tell you more than 1,000 of the finest adjectives we could select!

That's your cue to call in your nearest friendly Dary representative!

roll. The non-rotating portion of the joint is ball-bearing-mounted on this tube. The specially designed ball bearings carry the load of both radial and end thrust. Use of a sleeve-type pilot bearing at the end of the rotating tube insures alignment of the joint and provides a long bearing against twisting or cocking. Self-adjusting, self-sealing chevron-type packing carried under light spring pressure provides a long-life seal on the rotating tube. Low maintenance cost is said to be assured since these new joints usually can be serviced without even removing the joint from the roll. New packing can be installed in a matter of minutes.

The new type-IBR joints are built for 150 psi. of steam, or 200 psi. of hydraulic pressure, and also for vacuum service. They are recommended for speeds up to 500 rpm. steam, or 750 rpm. hydraulic, and for temperatures up to 450° F., depending on packing specified. Standard sizes range from ¼ to 3 in. Body types include both single and syphon or two-way-flow models with straight and angle connections. In the two-way-flow models, a syphon pipe is extended through the inlet tube for removal of condensate or discharge of gases or liquids.

New Boiler Improves Drying In Bleachery Installation



THREE TYPES OF STEAM, differing in moisture saturation, can be delivered separately or all at once by this boiler.

A new boiler specifically designed for use in the textile industry has been developed by Consolidated Boiler Corp., 126 Dartmouth St., Boston, Mass.

The boiler is constructed to operate on present or old-type process equipment. One boiler can furnish three types of steam: a saturated steam with temperatures as high as 220 to 290°

ACETATE YARN DYEING

GREATEST EXPERIENCE

★

GREATEST VOLUME

Our package dyeing method makes us by far the leading factor in the U. S. on the coloring of acetate yarn.

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Plant at Providence 1, R. I.

NEW YORK REPRESENTATIVE

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IMPROVE DYEING QUALITY

SAVE DYE ROOM LABOR

CUT DYEING COSTS

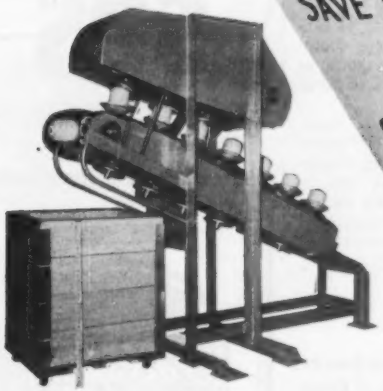
ELIMINATE GUESSWORK

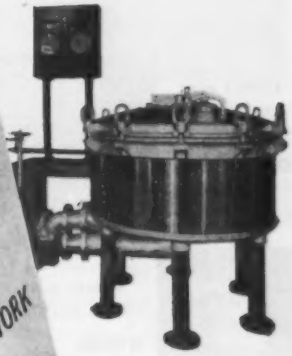
INCREASE CONVENIENCE

INCREASE PRODUCTION

GIVE POSITIVE CONTROL

SAVE TIME





Thanks to the Textile Industry . . . it was through helping to solve your individual problems that we have been able to pioneer outstanding dyeing improvements for the past 30 years.

From the study, service, and planning that goes with every installation of Gaston County Dyeing equipment will come the new ideas which *insure even better* dyeing methods in the future.

GASTON COUNTY DYEING MACHINE CO.

Pioneers in Automatically Controlled Dyeing Machines

STANLEY, N. C.

Albert R. Broen 80 East Jackson Blvd. Chicago, Ill.	Gaston County Dyeing Machine Co. Terminal Building, 68 Hudson St. Hoboken, N. J.—G. Lindner, Mgr.	The Rudel Machine Co., Ltd. 614 St. James St., W. Montreal 137 Wellington St., W. Toronto

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BULLETIN NO. 348

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HAVE YOU A ROLL PROBLEM?

Then you'll want the most complete roll catalog ever published. Contains full data about the many different rolls available in "Shaftite"* construction.

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RODNEY HUNT MACHINE CO.
66 Maple St., Orange, Mass., U.S.A.

* Reg. U.S. Pat. Off.

F. furnished in 15 min.; some saturation in the steam, with temperatures as high as 280 to 400° F. in 20 min.; and a dry steam, with no trace of moisture, with temperatures as high as 390 to 550° F. in 35 min. All three types of steam can be furnished at the same time or separately. An above-average recovery at all times is claimed. The cost of installed equipment has been cut by better than 50% in fuel alone, the company states.

In recent tests made in a well-known bleachery with improvised steam nozzles, the Consolidated heat generator, operating in conjunction with a tenter dryer, made the following gains in the speed of drying material.

Heavy Goods

Material	Gain over previous runs
2.8 yd. per lb.	13 yd.
3.15 yd. per lb.	10 yd.
5 to 6 yd. per lb.	6 yd.

Over-all gain in speed: 21.6%. Gain in water evaporation: 21%.

Similar tests in the drying of various fabrics are said to have shown that the texture and appearance of the materials processed have been improved.

These heat generators are small, compact units which may be placed in locations adjacent to machinery without tying up a great deal of necessary plant space. The dimensions of the 1500-Series Consolidated heat generator are approximately 65 in. high, 29 in. wide, and 43 in. long.

Packaged Precipitron Lowers Installation Time and Cost

You can now buy an encased Precipitron electronic air cleaner from Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh, Pa. The air cleaner resembles a factory-fabricated section of air duct or plenum chamber, 96 in. long, with a built-in Precipitron. The complete air-cleaning package, the type-PE encased Precipitron, is designed to assure minimum installation time and expense with maximum air-cleaning efficiency.

The PE units are available in air-cleaning capacities ranging from 8,330 cfm. at 90% efficiency to 44,000 cfm. at 85% efficiency. Efficiencies are measured by the U. S. Bureau of Standards blackness-test method. A 90% efficiency results when the air velocity is 333 fpm. When the velocity is increased to 400 fpm. (or 20%), the efficiency drops to 85% (5.5%).

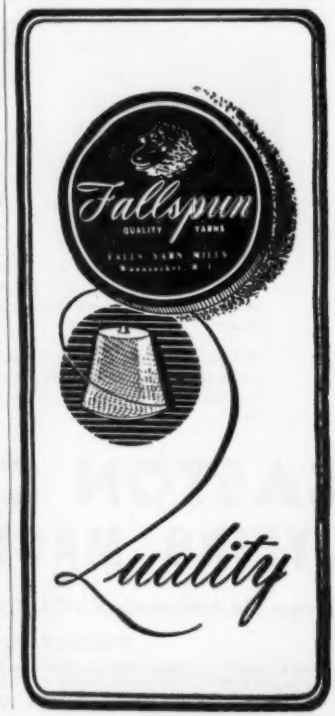
The over-all cross-sectional dimen-

42
STOCK SIZES IN HALLOWELL SOLID STEEL COLLARS

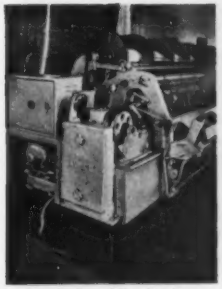
Precision machined for shafts from 3/16" to 3" diameter inclusive.

Write for prices and name of your nearest distributor.

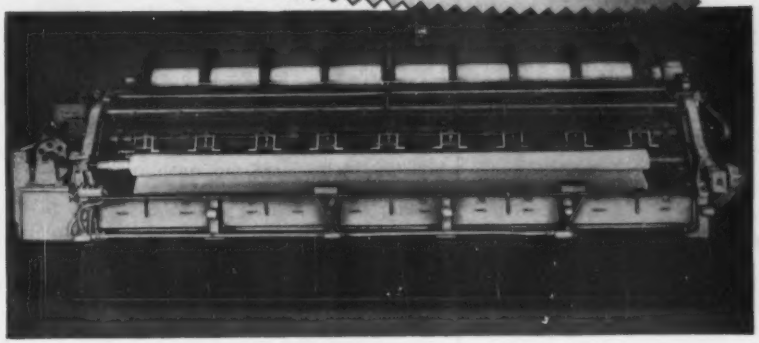
SPS
STANDARD PRESSED STEEL CO.
JENKINTOWN 35, PENNSYLVANIA



Makes Quality Fabrics at HIGH SPEED!



Left end of machine showing enclosed gear box, pattern mechanism, motor and controls.



Right end showing continuous let-down and take-up.

. . . the NEW Kidde-Aveco Tricot Machine

You'll get improved quality in your fabrics . . . and turn them out *fast* on the Kidde-Aveco High Speed Tricot Machine.

A mechanical continuous let-down replaces the brakes for controlling beams. A new continuous take-up replaces the ratchet take-up. And . . . to minimize the periods of acceleration and deceleration, there's a high starting torque motor equipped with a quick stop. You'll find these improvements reflected in elimination of shade marks, reduction of stop marks so that they usually dress out, and in improvement of fabric quality.

Why not consider the Kidde-Aveco machine in your expansion plans? Write for complete information.

CHECK THESE FEATURES:

✓ **NEW CONTINUOUS LET-DOWN.** Easy to set and maintain because it's mechanical. Eliminates shade marks, reduces stop marks and improves fabric quality.

✓ **NEW VARIABLE SPEED DRIVE.** A turn of a hand wheel varies machine speed. No chain drive . . . no gears to be changed . . . quieter operation. Tachometer included.

✓ **NEW CONTINUOUS TAKE-UP.** Quality is established by a simple turn of adjustment screw. No gears or sprockets to be changed. No clutch. Once set, it requires no adjustment.

✓ **OTHER FEATURES.** These include improved plunger design, improved front guide bar lifting mechanism, quick-stop and jogging control.

KIDDE MANUFACTURING CO., INC.
BLOOMFIELD, NEW JERSEY

Kidde-Aveco
FOR TOP-QUALITY FABRICS

"Industrial" Nylon Bristle Metal Core Brush

It's lighter to handle!

Color Furnishers

Here's the new nylon bristle furnisher brush that more printers are using every day. They find that the saran-set nylon bristle and the metal core can be readily cleaned to prevent bleeding.

Aluminum tubing makes the brush even lighter than a wooden core brush. It's easily installed and removed. This light weight also tends to reduce pressure on the bristle and so prolongs bristle life.

Raising and Laying

Even distribution of nylon or other bristle over entire surface of brush assures clean even brushing—no streaks.

Blanket Scrubbing

No metal is used in applying bristle—therefore, there is no risk of injury to expensive blankets. Nylon bristle and metal core assure long, trouble-free life.

There is an "INDUSTRIAL" Metal Core Brush for your every textile need.

Write us for full details.

Industrial Brush Co.

WOODSIDE AVENUE
LITTLE FALLS, NEW JERSEY

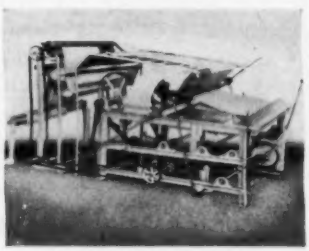
sions of the PE units range from 5 ft. 4½ in. high by 5 ft. 2½ in. wide, for the 8,330-cfm. unit, to 10 ft. 4½ in. high by 11 ft. 1¾ in. wide, for the 44,000-cfm. unit. All are 8 ft. long. Approximate net weight in pounds is from 1,970 for the smallest unit to 4,800 for the largest.

The units are shipped disassembled because of size and weight. The standard unit includes: the enclosure base, top, and side assemblies; partitions for supporting the dust-collector cells and ionizers; intake-air baffles; mounted-door interlock switches; power-pack hangers; and high-voltage cable. Erected units are complete in every detail with sealed access doors, ample servicing room, and punched flanges for air-duct connection. Start-up inspection by a Westinghouse engineer goes with every unit.

The base, top, and sides of the enclosure are made of 18-gauge galvanized sheet steel, welded to 1½-in. angle-iron reinforcing members. A drain pan is included as a part of the base. The unit is available with access doors on the right- or left-hand side. Air-baffle panels, dust-collector cells, and ionizer assembly are of aluminum.

The power pack is the electronic center that provides the high d.c. energizing voltages for the ionizer and dust-collector cell; it operates on 115-v., single phase, 50- or 60-cycle power supply, and consumes a maximum of 350 w. when fully loaded. Access-door interlock switches de-energize ionizer and dust collector cells when door is opened.

Folding Machine Has Air-Operated Jaws



LESS OPERATOR FATIGUE is said to result from design features of this cloth-folding machine.

A new and improved cloth-folding machine has been developed by Hall and Jansson Co., 177 Highland St., Worcester, Mass. The machine has air-operated jaws for clamping the cloth, and an automatic table that returns from its lowest operating posi-

USE FILE 17-8

Brighter Prints

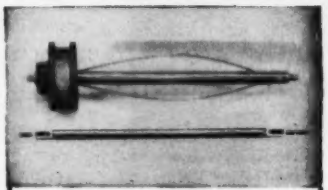
Metso Detergent in the scouring bath removes paste and excess dyes quickly, thoroughly. Equal parts of Metso and soap brighten the colors and whiten the whites. Some mills also reduce cost as much as a fourth.

PHILADELPHIA QUARTZ CO.
1139 Public Ledger Building
Philadelphia 6, Pa.

SILICATE P's & Q's

For more pointers on this and other PQ Silicate textile processes, write us.

SOLUBLE SILICATES for INDUSTRY



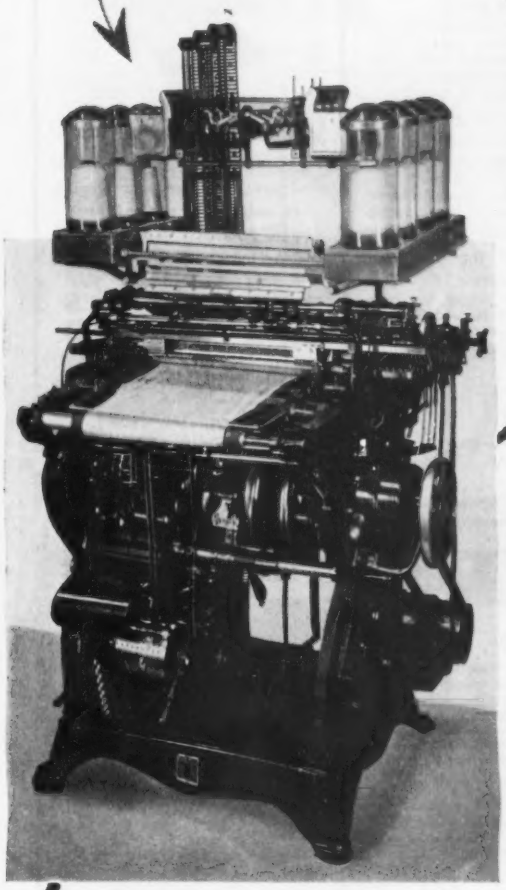
Renewable Tips Give You New Top Bobbin Spindles for No. 90 Machines

Wayne Spindles, with patented, renewable, tool-steel tips cost little more than solid end spindles. Worn tips can be quickly replaced for a few cents, and spindles are then good as new. Send for sample—see how to save time and money.

WAYNE Mfg. Co.
HONESDALE, PA.

single-head
single-unit
full-fashioned

HOSIERY MACHINE



...allows one operator to attend to 20 to 24 machines.

and this

hosiery machine...

is suitable for cotton, lisle and silk yarns, too.

...No lost operating time, no maladjustments because of temperature changes, no special floor or building construction required.

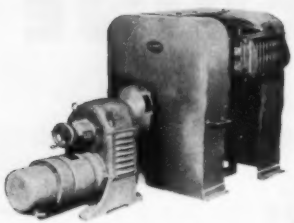
IF IT'S A

WILDMAN

IT'S SUPERIOR

WILDMAN MFG. CO.
Norristown, Pa.

Do You Cut Thread WASTE? STAPLE? RAGS?



Taylor-Stiles Cutters cut any fiber in rove, sliver, or continuous filament into uniform lengths. Easy, quick changes in length can be made by a single adjustment.

Other machines for cutting wool rags and garments into small pieces; for cutting hard-wound wool strippings and string waste into useable fiber. Also tangled waste before garnetting.

If you do cutting of any kind, a Taylor-Stiles machine offers efficiency plus top performance under all conditions of use.

Full details in our illustrated catalogs—write for one today.

TAYLOR-STILES and Company
CUTTING MACHINES & KNIVES

15 Bridge St. Riegelsville, N. J.

tion to the starting position by a reduction-geared motor drive. It was designed particularly for handling plissés in long cuts to manufacturer's requirements.

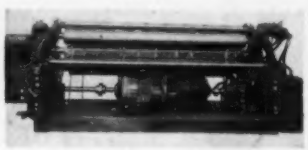
The machine has all-steel construction of the main framework and ball bearings at all necessary wearing points. The air-operated jaws with automatic table lift and drop permits operators to handle more work more efficiently and obtain better yardage top and bottom of the piece.

The simple, light construction of all reciprocating parts is said to permit far greater production with considerably less operator fatigue.

The Hall and Jansson standard machines are designated to the trade as *No. 1, No. 2, and No. 4 low top.* An overhead, or high-top, machine for bleached goods is also available.

The machine, the manufacturer states, can, if necessary, be adapted to any specific folding problem by making changes that the purchaser may desire. For instance, the feed roll stand may be any height, the rails may slope up or down toward the operator, and feed rolls can be installed on the rails, or back of the operator for bleached goods.

Rewinder Has 36-in. Rewind Capacity



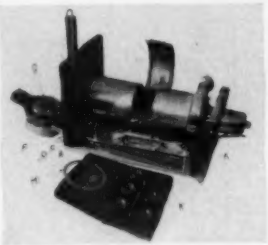
SIMPLICITY OF DESIGN, variable-speed drive up to 1500 rpm., compactness, and vibrationless operation are among the features of the new No. 15 duplex rewinder made by Bagley & Sewall, 500 Fifth Ave., New York, N. Y. The machine has hydraulically driven differential rewind shafts. Air-operated slitters can make strips as narrow as ½ in. Accurate pressure control between drum and rewind shafts, fully enclosed hydraulic and air piping, and easily accessible controls are other features. Roll widths from 42 to 92 in. can be handled.

Compound Eliminates Water Seepage

Dashide, a new compound which penetrates into porous walls to seal cracks and expands to fill the pores thus eliminating water penetration, has been developed by Dasco Co., Inc., 1602 Thames St., Baltimore 31, Md.

The compound is a transparent, clear material, resistant to acids and alkalis. It has been used successfully

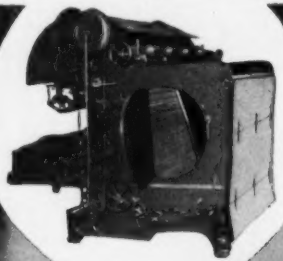
AIR POROSITY TESTER



An apparatus for use in measuring the air flow through textile products and similar materials in cubic feet per minute

Write for literature and prices

UNITED STATES TESTING COMPANY INC.
1415 Park Avenue
Hoboken, New Jersey



Specify Harwood Aprons for BRAMWELL® FEEDERS

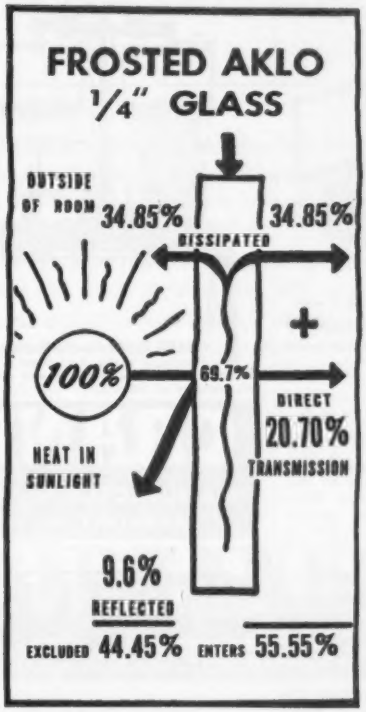
Geo. S. HARWOOD & Son
50 Lagrange St., Worcester 8, Mass.

FILTERED DAYLIGHT

FROSTED *AKLO* GLASS

- **brings in sunLIGHT**
- **shuts out sunHEAT**
- **reduces GLARE**

This blue-green glass helps you provide better working conditions that pay off in increased production, reduction of errors and decreased accidents.



REDUCES SUN HEAT. The diagram at the left shows why. *Aklo** is heat-absorbing glass. Instead of letting almost all the sun heat pour through, as does regular glass, *Aklo* absorbs a large percentage and reradiates half of that back outdoors. It excludes more than 3 times as much sun heat as ordinary glass. Interiors stay cooler. Air conditioning costs are lowered.

REDUCES GLARE. Frosted *Aklo* Glass puts a diffusing filter between the bright sun or sky and the eyes of workers. Direct glare and glare reflected from shiny surfaces and moving parts is materially reduced. There's less eye fatigue—quicker seeing, safer seeing.

With Frosted *Aklo* Glass you can comfortably use larger window areas for better daylighting. To see for yourself how Frosted *Aklo* Glass reduces sun heat and glare, ask a Libbey·Owens·Ford Glass Distributor for a radiometer demonstration. *®

PROOF OF HEAT REDUCTION. This radiometer shows in a minute how efficiently *Aklo* shuts out sun heat. Heat makes the vanes whirl. When *Aklo* Glass is put between a built-in heat source and the radiometer, the vanes almost stop!

Free Book on Reduction of Sun Glare and Heat

Blue Ridge Sales Division
Libbey·Owens·Ford Glass Company
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Please send me a copy of your book on glare and heat reduction, "Filtered Daylight".

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Company_____

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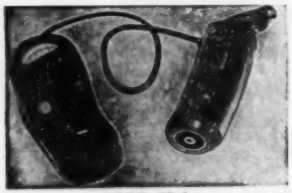
BLUE RIDGE AKLO GLASS

Heat Absorbing • Glare Reducing • Figured and Wire Glass

 For more information, write direct or use Reader Service post card.

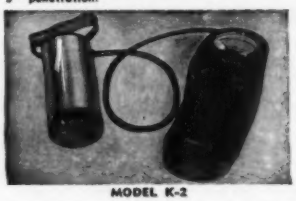
Two Great Models for TESTING MOISTURE CONTENT

in • wool
• cotton
• rayon and
• nylon



MODEL PD-1

for textiles in loose or compressible forms—3" penetration.



MODEL K-2

for textiles in cones, rolls, beams and similar forms.

10-DAY FREE TRIAL!

Try one of these moisture testing instruments for 10 days—use it, test it and prove its superiority. Send samples, moisture range and Purchase Order to cover trial period. No obligation!

Quick, Accurate Readings

In less than 3 seconds you can test moisture content of practically all types of textile materials, including cotton, wool, rayon and nylon in fabrics, packages and loose forms.

This portable instrument is designed for "on the spot" checks in your plant. Moisture Register is easy to operate—requires no technical knowledge or complicated figuring. Cost is negligible in comparison to advantages. Write today for complete details. Specify type of material to be tested.

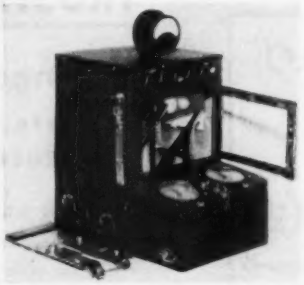
MOISTURE REGISTER CO.
Dept. G
1510 W. Chestnut St. Alhambra, Calif.

ELECTRONIC MOISTURE REGISTER
Mfd. by
Moisture Register Co.
1510 West Chestnut St.
Alhambra, California

in many naval installations.

Dashide covers about 100 sq. ft. (two coats) per gal.

SPI Flammability Tester Available for Textiles



IGNITION AND BURNING rates are measured automatically with this flammability tester, which also indicates ease of extinguishment.

The flammability tester developed by the Society of the Plastics Industry is now available from Custom Scientific Instruments, Inc., P. O. Box 170, Arlington, N. J. The tester was designed to measure relative flammability of sheet materials, including textiles, from 0.001 to 0.250 in. thick, or more.

The sample is easily mounted by laying it in the specimen holder outside the cabinet and snapping the spring-tension jaw shut. Combustible samples are tested by sliding the specimen holder with sample into the cabinet. When the sample reaches test position, it contacts igniting flame and simultaneously starts a timing clock. With the first burst of flame from a small vertical segment of the sample, a cotton thread is burned, stopping the ignition clock. Simultaneously a second clock starts and continues to run until the traveling flame burns another thread. Ignition and burning rates are measured automatically. A thermocouple mounted in the flame registers the intensity of heat on a pyrometer during the same operation. Ease of extinguishment can be judged on the same sample.

Greater degrees of severity can be applied to flame-resistant materials. Highly flame-retarded samples that will not continue to support combustion by themselves are tested in vertical position by operating the clocks manually.

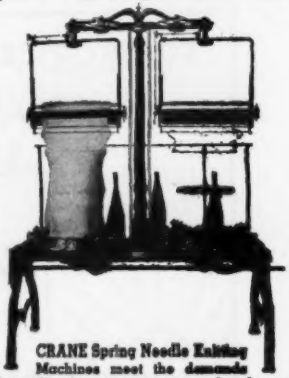
Improved Steam Cleaner For Looms and Frames

A new, compact, improved-type re-

1870 CRANE 1951

SPRING NEEDLE KNITTING MACHINES

Speed - Quality - Low Cost



CRANE Spring Needle Knitting Machines meet the demands of rapidly changing patterns and styles on all weights of fabrics.

CRANE
MANUFACTURING CO.
LAKEPORT, N. H.

IT'S WHAT IS IN THE DRUM THAT MAKES THE DIFFERENCE

There is a REASON WHY
the RICHMOND SYSTEM
of
SCOURING, DYEING and FINISHING
of
NYLON HOSIERY
with related products get better results at lower cost

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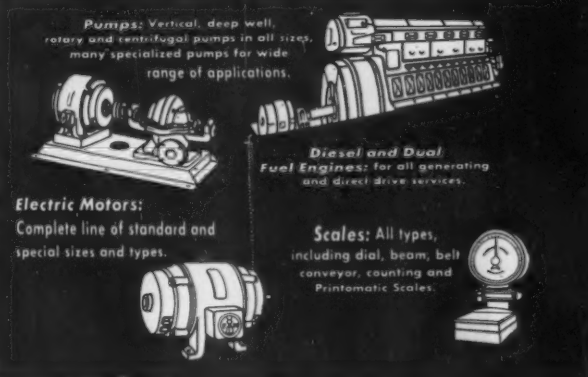
Fairbanks-Morse Sales Centers are staffed by factory-trained sales and service engineers who offer prompt and valuable application assistance for all Fairbanks-Morse products—as well as fast repair parts service to keep your old equipment going at top efficiency. For where to call—see the list below.


Pumps: Vertical, deep well, rotary and centrifugal pumps in all sizes, many specialized pumps for wide range of applications.
Diesel and Dual Fuel Engines: for all generating and direct drive services.
Electric Motors: Complete line of standard and special sizes and types.
Scales: All types, including dial, beam, belt conveyor, counting and Printomatic Scales.

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Room 605
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HArrison 7-7100

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WAlnut 8581

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DENVER 2, COLO.
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TAbor 6241

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2017 Dean Avenue
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DETROIT 13, MICHIGAN
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INDIANAPOLIS 2, IND.
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KANSAS CITY 7, MO.
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WA 2-4100

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EAst 0131

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187 Pine Street
GAspee 1-1531

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217 South Eighth St.
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GArfield 4335

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3-2108 & 3-5139

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TULSA 3, OKLA.
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3-8231

WASHINGTON 5, D. C.
1000 Vermont Ave., N. W.
District 6694

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Balderas 146, Mexico 1, D. F. Mexico
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Specially helpful on BLENDS — U. S. "Bevel Edge" styles

The anti-friction design of these travelers, gives reduced end breakage, and in other ways helps spin blends more smoothly.

Prompt shipment from Providence & Greenville stocks

"A Style and Size for Every Textile Fibre!"

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Drexel Hill, Pa.—Phone Hilltop 6-1563

H. R. Fisher
Concord, N. C.—Box 83—Phone 8366

H. J. Smith
Providence—Box 1187—Gaspee 1-0100

the JC-20, that incorporates changes based on experience of mills with the original JC30-LCS model, has been developed by Livingston Engineering Co., 100 Grove St., Worcester, Mass.

Similar in principle to the original unit, the new unit is said to be equally effective, more compact, lighter, and more easily maneuverable in close quarters.

The new unit requires one-third less power than the previous model. The new Speedylectric loom cleaner JC-20 can be plugged in at convenient locations in most mills without adding to present power lines. On 550-v., 3-phase, only 22 amps. are needed for maximum output. High-pressure dry steam from the built-in boiler is delivered to the steam lance, and, under finger-tip control of the operator, is directed at high jet velocity against the gears, cams, dobby heads, and frame of the loom to be cleaned.

When needed for cutting caked grease or waste accumulations, the operator can instantly apply a concentrated solvent or detergent, either alone or atomized with the steam at the jet.

Actual tests under regular mill operating conditions are said to show that one man with a Speedylectric JC-20 can clean the dirtiest looms in 12 to 15 min., as compared with a minimum of 45 min. for two men using ordinary hand methods. Furthermore, the steam-detergent combination cleans more thoroughly all parts inaccessible to ordinary scrub-brush cleaning.

Steam cleaning of looms once every six months or at least once a year is recommended by the company. With this preventive-maintenance procedure, looms are kept in first-class condition; and daily vacuuming or compressed-air blowoffs are more effective. Steam-cleaning is not intended to replace daily vacuuming or blow-offs, but can make this daily maintenance more effective by removing sticky oil and grease. Inspection of worn parts is also made easier and more effective.

A large manufacturer of textile equipment reports excellent results cleaning carding rolls with the JC-20 after grinding and before final inspection and shipping.

In the same manner, a similar application will be found in spinning mills that maintain and apply clothing to their own carding rolls. The advantage of cleaning before the roll goes into service on cotton is to avoid the soilage sometimes experienced with new or reclothed rolls. High-pressure dry steam without detergent is used for this purpose, and the high temperature results in immediate drying of the clothing.

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As an important source of Buying Information on all types of textile machinery, equipment, supplies and services, Mr. M. W. Simpkins, Superintendent of the Tirrell Bros. Silk Corp. of Phillipsburg, New Jersey, strongly favors McGraw-Hill's Textile Catalogs.

In a recent statement expressing his evaluation of this handy reference volume, Mr. Simpkins comments, *"We have found your Catalog to be of inestimable value in locating products, manufacturers and sundry other information quickly."*

If PRE-FILED TEXTILE CATALOGS is not available for buying reference at your mill, write to McGRAW-HILL CATALOG SERVICE, 330 West 42nd Street, New York 18, New York. There is no charge to qualified users.

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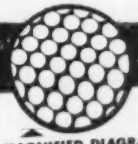
When you are figuring on insulation, make sure you have the latest information on PC Foamglas. Our technicians will be glad to consult with you regarding your special requirements. Meanwhile, send in the coupon for a sample of Foamglas and a copy of our informative free booklet.



THIS MAGNIFIED DIAGRAM SHOWS that PC Foamglas is composed almost entirely of still air, which is sealed in minute glass cells. The black areas indicate glass, the white areas air. The insulating properties of still air and the unusual resistance of glass to moisture, chemicals and other elements that cause insulation to deteriorate, make Foamglas an exceptionally effective, long lasting insulating material.

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Book Reviews

Progress Survey For Executives

EXECUTIVE ACTION by Edmund P. Learned, David N. Ulrich, and Donald R. Booz; Harvard Business School, Soldiers Field, Boston 63, Mass.; cloth, 218 pages, $3.25.

This book is addressed to business executives and is a study of the problems they face in trying to get effective coordination among the supervisory staff all up and down the line. The conclusion is offered by the authors that in the end an effective executive team, small enough to permit face-to-face contact among all the members, should be headed by a man skilled in the adjustment of human variables. After all, they say, the most difficult problems that arise can only be resolved in human terms. Two years were spent in gathering from top company executives across the nation the information and case histories from which these and other conclusions are drawn.

Chapter heads for the "executive-in-action" half of the book include the process of delegating authority, communications problems, controls, the use of organizational charts and manuals, the use of staff organizations, and the supreme art of building up through the years an alert and integrated organization. For mill executives willing to learn anew or review their recent progress, this book is good.

Significant Quote: "The greatest potential that industry possesses is its human potential."

Finishing Field Surveyed Chemically

AN INTRODUCTION TO TEXTILE FINISHING by J. T. Marsh; John Wiley & Sons, Inc., 440 Fourth Avenue, New York 16; cloth, 552 pages, $5.50.

This companion volume to a similar work of a few years ago on textile bleaching reviews the finishing field from a more or less chemical point of view. The author has been a textile research chemist for more than 20 years, and is at present research manager of the Tootal Broadhurst Lee Co. Ltd. in Manchester, England.

By means of chapters devoted to such subjects as crêping, dispersion processes, formaldehyde, permanent setting, anti-shrinks, softening, rubberizing, weighting, delustering, synthetic resins, waterproofing, mildewproofing, and fireproofing—the author has been able to discuss the field of finishing as applied to many different fibers and fabrics. British methods and processes developed since the war are evaluated against older commercial process as developed in England and on the Continent.

The general student will find this work an excellent reference, with both historical and recent procedures and facts from the entire finishing field. A short appendix, a bibliography, and proper and subject-name indexes complete the work.

Synthetic Fibers And Yarns Evaluated

ARTIFICIAL FIBRES by R. W. Moncrieff; John Wiley & Sons, Inc., 440 Fourth Avenue, New York 16; cloth, 312 pages, $4.50.

The completely "synthetic" fibers described chemically and illustrated in Part IV of this book should be of a good deal of interest to American textile chemists. Within the section's 62 pages, 10 of today's leading man-made fibers are well evaluated: nylon, Perlon, Terylene, Vinyon, Saran (Velon and Permalon), Pe Ce, Orlon acrylic fiber, Polythene, glass, and Plexon.

Earlier chapters include similar descriptions of regenerated cellulosic and alginic fibers and regenerated protein fibers, written up in an encyclopedic manner. The techniques of processing artificial fibers—through dyeing, finishing, identification, and evaluation—are detailed in the book's final 50 pages.

Processing-Machinery Maintenance Handbook

SACO-LOWELL HAND-BOOK, Vol. IV, Engineering and Technical Data Pertaining to the Manufacture of Cotton and Rayon Yarn, 3rd Edition; Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.; paper, 290 pages, $7.50.

In this most recent revision of a well-known handbook, latest operational data and technical information on the various machines manufactured by Saco-Lowell Shops for the textile industry are detailed. Sections include mathematical tables of all kinds, fiber and yarn data, electrical and power needs, belting information, humidification recommendations and charts, and minute descriptions (with line drawings) of important aspects of processing equipment. Speeds, gearings, calculations, lubrication requirements, gauges needed, and handy work-sheet layouts are also discussed in detail.

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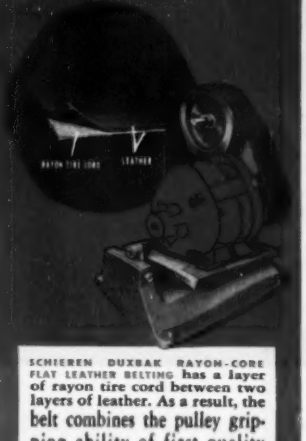

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News of the month

$11,000,000 QM Laboratory. A research laboratory for the Army Quartermaster Corp., to cost $11,000,000, will be built on a 20-acre site at Natick, Mass., as soon as Congress appropriates the money that it authorized for the project more than two years ago. The proposed laboratory will house in one location all the research and development activities of the Corps now being conducted at Washington, D. C., Philadelphia, Pa., Jefferson, Ind., and Lawrence, Mass. Tentative plans call for approximately 320,000 sq. ft. of space. Two climate chambers will be built that can duplicate weather found almost anywhere in the world. They will have controls for solar radiation, humidity, wind, rain, and snow. Other research facilities will include a textile-finishing research lab, a textile-materials engineering research lab, a clothing-design shop, a tentage-, and equipage-development shop, a waterproof-container fabricating shop, a laundry-research laboratory, and a dry-cleaning shop.

Strengthening Cotton Fibers. Cotton fibers can be strengthened individually by about 10% by treating them with hydrocyanic acid, Dr. Vernon L. Frampton, University of Texas, Austin, Tex., has discovered. He and associates discovered the process accidentally while conducting experiments to find a way to stop the damage of fungi, bacteria, and ultraviolet rays to cotton fibers. Experimenting with many-atomed cotton-cellulose molecules, the scientist found that hydrocyanic acid added one carbon atom to each molecule and strengthened the molecule greatly. The new process is expected to lengthen materially the life of cotton garments laundered with soap and constantly exposed to sunshine.

Successful Screen Printing. Among the more important factors in successful screen printing is the composition of the print paste, Otto Habel, head of the printing department at General Dyestuff Corp., New York, told the New York Section of the AATCC at a recent monthly meeting. Aside from the proper selection of the dyestuff, a thoughtful choice of the printing carrier, or thickening, depends on (1) the dyestuff group and assistant chemicals involved (the color solution may be either highly alkaline or highly acid), (2) cloth construction, and (3) price. Further considerations must be given to the facts that (4) the gum must not interfere with the diffusion of the

TEXTILE CALENDAR

International Textile Exhibition, Parc des Expositions, Lille (Nord), France, April 28 to May 20, 1951.
Knitting Arts Exhibition, Atlantic City Auditorium, Atlantic City, N. J., April 30 to May 4, 1951.
American Material Handling Society, materials-handling conference, International Amphitheatre, Chicago, Ill., April 30 to May 4, 1951.
National Materials-Handling Exposition, International Amphitheatre, Chicago, Ill., April 30 to May 4, 1951.
British Industries Fair, Earls Court Hall, London, England, April 30 to May 11, 1951.
AATCC, New York Sect., Swiss Chalet, Rochelle Park, N. J., May 4, 1951.
Greater New York Industrial Show, 71st Regiment Armory, New York, May 7 to 11, 1951.
AATCC, Hudson-Mohawk Sect., Albany, N. Y., May 11, 1951.
Cotton Mfrs. Assn. of Georgia, annual convention, Sheraton Plaza and Princess-Issena Hotels, Daytona Beach, Fla., May 16 to 18, 1951.
Prague International Fair, Prague, Czechoslovakia, May 20 to June 3, 1951.
American Society for Quality Control, annual convention, Hotel Cleveland, Cleveland, Ohio, May 23 and 24, 1951.
Canadian International Trade Fair, Toronto, Ontario, May 28 to June 8, 1951.
LTI Alumni Reunion, Lowell Textile Institute, Lowell, Mass., June 2, 1951.
AATCC Southeastern Sect., summer outing, Radium Springs, Ga., June 8 and 9, 1951.
Seattle International Japanese Trade Fair, Edmundson Pavilion, Seattle, Wash., June 17 to July 3, 1951.
ASTM, annual meeting, Atlantic City, N. J., June 18 to 22, 1951.
Gordon Research Conference on Textiles, Colby Junior College, New London, N. H., June 18 to Aug. 31, 1951.
STA, annual convention, Mayview Manor, Blowing Rock, N. C., June 21 to 23, 1951.
Chicago Yarn Men's Club, golf outing, Elmhurst Country Club, Chicago, Ill., June 28, 1951.
Principles of Textile Research, summer course. Mass. Institute of Technology, Cambridge, Mass., July 2 to 27, 1951.
Summer Refresher Course, Teachers College of Columbia Univ., and U. S. Testing Co., Hoboken, N. J., July 23 to Aug. 10, 1951.
American Chemical Society, diamond jubilee, New York, Sept. 3 to 7, 1951.
AATCC, annual convention, Statler Hotel, New York, Oct. 17 to 19, 1951.
Packaging Institute, annual forum, Hotel Commodore, New York, Oct. 22 to 24, 1951.

1952

Plant Maintenance Show, Convention Hall, Philadelphia, Pa., Jan. 16 to 19, 1952.
Knitting & Allied Crafts Exposition, sponsored by Natl. Knitted Outerwear Assn. and Underwear Institute, Grand Central Palace, New York, April 21 to 25, 1952.

1954

American Textile Machinery Exhibition, sponsored by National Association of Textile Machinery Manufacturers, Atlantic City Auditorium, Atlantic City, N. J., April 26 to May 1, 1954.

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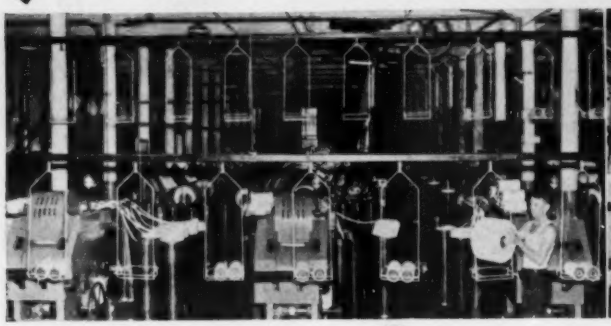

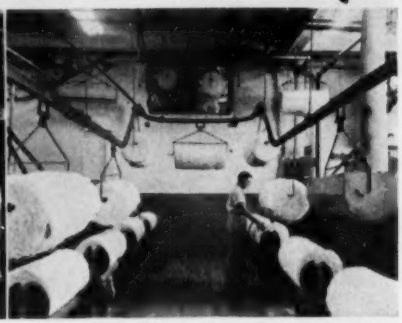

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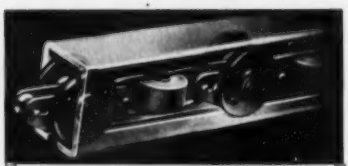

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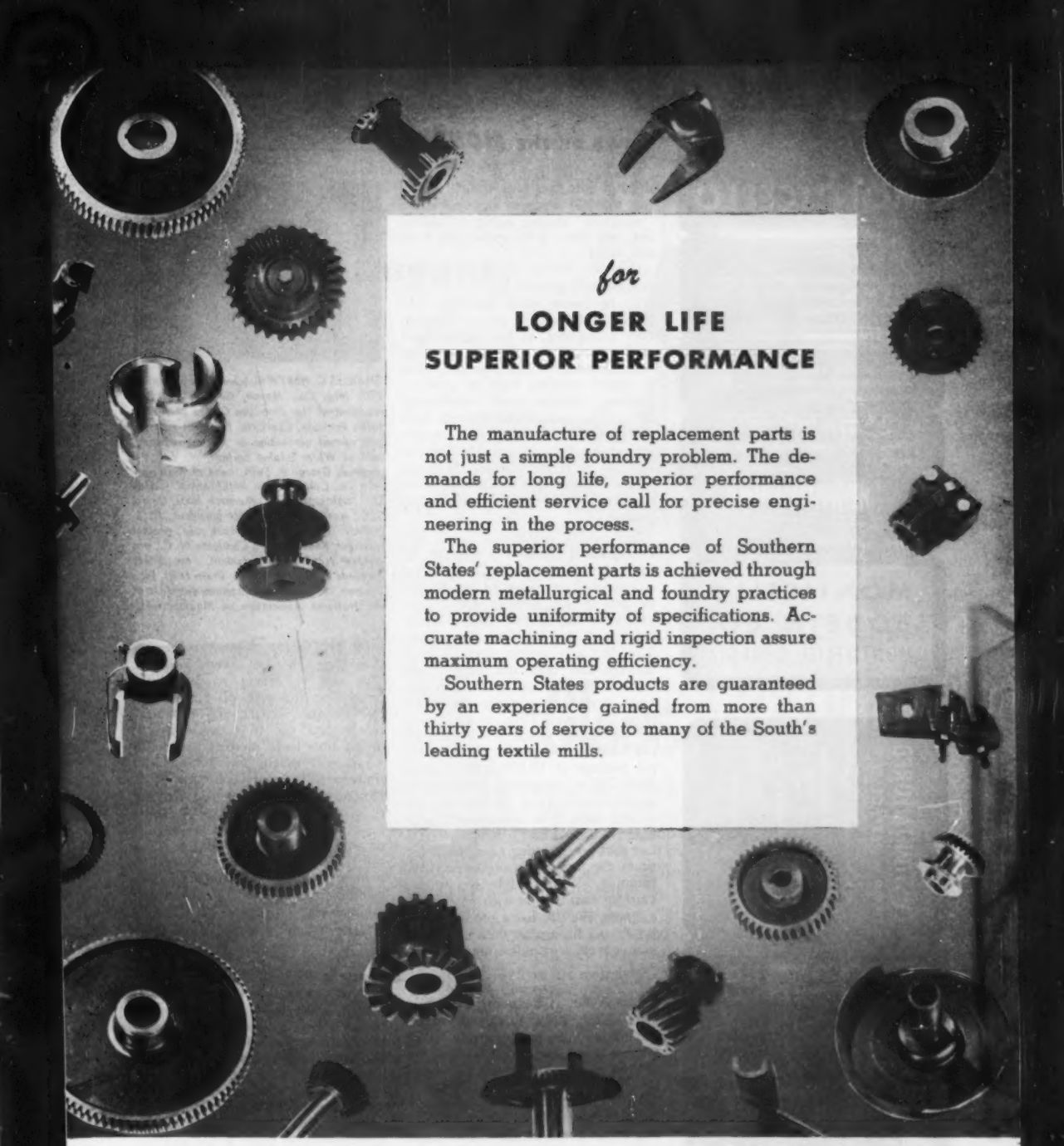

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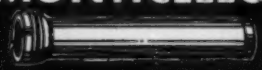

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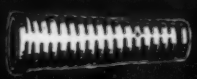

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NEWS OF THE MONTH (Continued)

dyestuff into the fiber during steaming, that (5) the gum must not cause "mark-offs" during aging or steaming, and that (6) the gum must wash out easily.

Tightly woven fabrics are best printed with gums of higher solid content to insure good levelness, Dr. Habel continued. If perfect penetration is required, as for handkerchief cloth, gums of low solids are most suitable. Because far more color is applied in screen printing than in machine printing, straight starch thickenings are seldom used. Their removal from the cloth after steaming often requires special handling. Small additions of starches or starch mixtures to gums of low solids, on the other hand, often result in better color yield and sharper outline.

Pot-Spinning Costs. Pot spinning by the newly developed McCann system is estimated at about 1¢ per lb. for all sizes of yarn, John J. McCann, inventor of the system, told a recent meeting of the AATT in New York. The McCann system spins a large package and does not have to be slubbed to take out yarn imperfections caused by piecings (of which there are none). Thus, winding costs are eliminated, which in worsted mills run from 7 to 9¢ per lb. Running the pot package at 10,500 rpm. requires about 200 w., amounting powerwise to approximately ¼ of 1¢ per hr. per spindle more than conventional spinning. This extra cost is reduced by the fact that pot spinning gives up to five times the production of conventional spinning. When single 8s worsted knitting yarn is spun with 3¼ tpi., for example, the pot has a production of 1.1 lb. per hr. against 0.22 lb. per hr. in a very efficient mill using ring spinning.

Felted Nylon. A method for mechanically felting nylon to produce a textile fabric similar to conventional wool felt but possessing some superior characteristics of nylon has been developed by Drycor Felt Co., Staffordville, Conn. Similar in density and strength to wool felt, the new product is immune to deterioration from fungi, mold, mildew, and bacteria. It is not affected by many wool-weakening chemicals or high temperatures.

Faster Dyed-Wool Drying. The practicability of shortening the drying time of wool yarn after dyeing by forcing heated air through the package has been proved on an experimental basis by B. H. Lincoln of the Wool Industries' Research Assn., Leeds, England. The rate of drying is determined largely by the rate of flow of air through the package and its initial temperature. As an example of the drying time to be saved, a package of 1.3 lb. dry weight was wet out and centrifuged to a water content of 55%. Heated air was then blown through the package at a rate of 250 cu. ft. per hr. The time calculated as needed to reduce the water content to 15% was slightly over an hour. The method is more rapid than an ordinary hot-air chamber, where 180° F. is the maximum to which wool can be heated in practice without deterioration in quality.

CHARLES C. HERTWIG (center), president of Bibb Mfg. Co., Macon, Ga., was elected president of the American Cotton Manufacturers Institute, Charlotte, N. C., at the second annual convention of the organization, held at White Sulphur Springs, W. Va. He succeeds George P. Swift, head of Muscogee Mfg. Co., Columbus, Ga. WILLIAM A. L. SIBLEY (right), treasurer, Monarch Mills, Union, S. C., was elected first vice-president; H. K. Hallett (left), vice president and general manager, Kendall Mills, Charlotte, N. C., was elected second vice president. Mr. Sibley succeeds William H. Ruffin, Erwin Mills, Inc., Durham, N. C., who has become president of the National Association of Manufacturers.

Course in Re-Used Fibers. A five-day summer course in reprocessed and re-used fibers will be conducted at Lowell Textile Institute, Lowell, Mass., from June 11 to 15. Men from the reworked-fiber field will cooperate with LTI faculty members in presenting the material on rags and waste handling, pickers, shredders, and garnetting machines. A trip through a reprocessed-fiber plant in the area will be conducted. The cost of the course is $50 per student; the number of enrollees in the course is limited to 50.

Indian Textile Machinery. India will soon have its own local source of supply of cotton-spinning machinery and parts. Biggest shareholder in the enterprise being completed at Thana, 25

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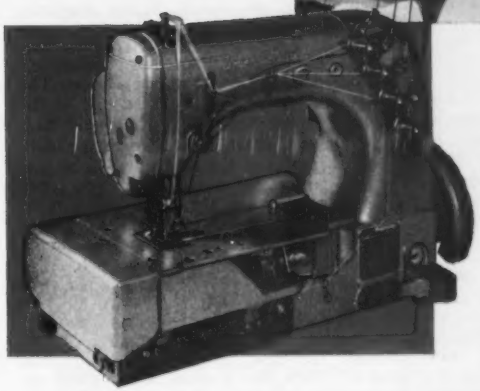

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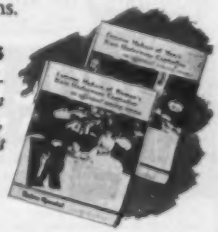
WHEN it comes to multiple needle flat seaming and finishing operations on knitted undergarments, you can't beat Union Special's new improved "Fifty-Two-Eights" for low cost, volume production and fine quality of work produced. Widely used for attaching split tube borders, knitted tubing, collarettes, lace, and flat seaming work, Class 52800 units are typical of the numerous new precision-built machines Union Special offers to help you cut costs and speed production. Take advantage of the service Union Special offers—ask for recommendations.

Offering . . .

- **PRODUCTION PLUS!** Higher operating speeds. Fast starting and stopping.
- **FINEST QUALITY WORK!** Styles available for various operations on a wide range of fabrics.
- **EASY OPERATION!** Smooth, free-running performance reduces operator fatigue.
- **SIMPLIFIED MAINTENANCE!** Completely automatic lubrication. Easy-to-clean streamlined frames. Improved bearings for long life.

HELPFUL BULLETINS

Send for copies of these informative bulletins: No. 254, "Efficient Production of Men's Knit Underwear." No. 255, "Machines for Making Women's Knit Underwear."



Union Special® MACHINE COMPANY

World's Largest Exclusive Builder of Industrial Sewing Machines

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The NEW
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with only
72"
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Height
It Easily Enters
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The MOBILIFT "Tier-Master" has
- LEV-R-MATIC DRIVE . . . *Push-Pull Controls — No Gears to Shift.*
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The new "Tier-Master" Stand-Up Model "E" tiers 3 *pallets high* from an overall collapsed height of *only 72"* and has a free lift of *47"*. Cut your materials handling costs with versatile Lev-R-Matic Drive "Tier-Masters".

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NEWS OF THE MONTH (Continued)

miles north of Bombay, is Textile Machinery Makers Ltd., Oldham, Lancashire, England. Mr. Krishnaraj Thackersey is chairman of the three-year-old organization, called National Machinery Manufacturers Ltd. Spinning rings are already being produced, and spindles are next in line. By next year, ring frames will be available, along with a large quantity of spare parts. Ultimate target for frames is 25 a month and for spindles 120,000 a year. India's annual demand is for 400,000 replacement spindles. The plant at Thana will have a fully mechanized foundry—the only one in Asia—with a capacity of over 500 tons a month.

MIT Textile-Research Course. A four-weeks course under the direction of Prof. Edward R. Schwarz, designed to review recent developments in methods and equipment, will be given at Mass. Institute of Technology, Cambridge, Mass., from July 2 to 27. Emphasis will be on the functioning of a textile-research laboratory in connection with quality-control programs, new-product development, instrumentation, processing, and textile education. Subjects to be covered include planning of experiments, recording and presentation of data, analysis of variance, significance testing, polarized light, tensile testing, heat transmission, abrasion, sound-velocity techniques, servomechanisms, photomicrography, sampling techniques, precision of measurement, correlation analysis, improved sectioning, air permeability, resilience, flexibility, creep, relaxation, inpact, and applications of electronics. Tuition for the course is $125.

New Wool-Type Synthetic. A synthetic fiber described as possessing wool-like properties has been developed on a pilot-plant basis at Amsterdam, The Netherlands. The fiber, celled Casolana, is made from casein. Casolana blends well with natural wool, dyes easily, and has a soft hand. Cost of production is said to be one-third that of natural wool. The entire output of the new fiber is being used for experimental purposes. No date has been publicly set for commercial production of Casolana.

LTI Presidential Inauguration. Inauguration of Martin J. Lydon as president of Lowell Textile Institute, Lowell, Mass., is scheduled for Saturday, June 2, at 2 P. M. in the Memorial Auditorium, in conjunction with the annual alumni reunion. The affair is expected to be one of the biggest events the school has ever had, with about 1,000 attending. Main speaker at the ceremony will be past president Kenneth R. Fox, now a vice president of Burlington Mills. A reception will be held for invited guests.

Mobilization News Items

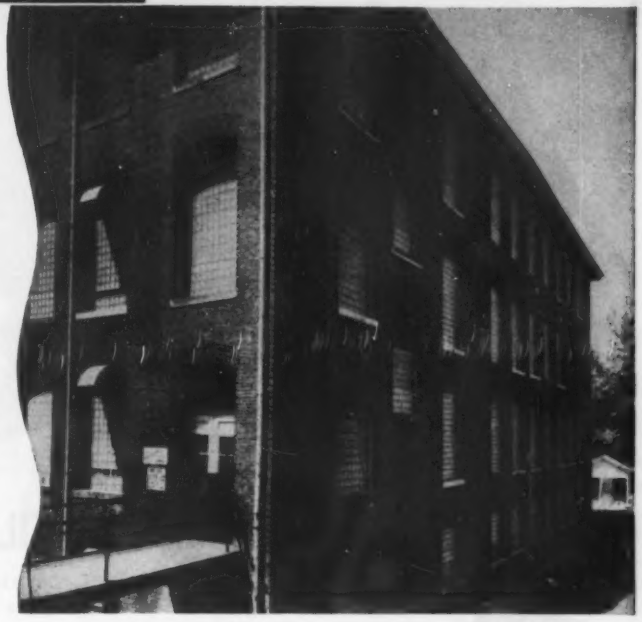
MRO Orders. NPA has set up quarterly-quota Defense Order ratings (known as DO-97) for mills wishing to obtain limited quantities of maintenance, repair, and operating supplies, as well as minor capital additions. There are two ways of calculating quarterly requirements. A standard quarterly quota is one quarter of the total amount a mill spent in 1950. A seasonal quarterly quota corresponds to the amount spent in the corresponding quarter of 1950. Once made, no change in choice of basis will be allowed without prior written authorization from NPA.

Wage Increases. Employers who want to obtain rulings on wage or salary increases proposed under General Wage Stabilization Regulations must submit requests for rulings by the Wage and Hour Division of the U. S. Dept. of Labor on special forms available at any divisional office. Four copies of the new form—Wage Stabilization Form No. 1—must be submitted for each type of general increase being considered.

Raw-Cotton Ceiling Price. OPS in March put a ceiling price of 45.39¢ per lb. of cotton to govern trading in raw cotton for future delivery on the Cotton Exchange. At this time of year, about 85% of the 1950 crop has passed out of the hands of the farmers. Profit losses to them are thus fairly small in volume. It will be several months yet before the new 1951 crop may make the farmer really resent the ceiling. However, increased plantings point to an 18- to 20,000,000-bale crop, aided by the fact that the boll-weevil threat was decimated by early frosts. Parity-price regulations may eventually be invoked to keep cotton from tumbling to as low as 10¢.

Replace old sash with modern PC GLASS BLOCKS

In textile mills all over the country, this has resulted in improved operating conditions, reduced maintenance costs, elimination of periodic repairs and replacements.



IN THIS textile mill, PC Glass Blocks replaced old, uneconomical windows. Such a modernization program is easily adapted to budgets . . . the entire job can be done at once, or extended over a period of months or even years.

When you replace old, worn-out sash with PC Glass Blocks, you will find that a number of benefits and actual money-saving advantages will be felt in your operations.

PC Glass Blocks don't require costly repairs or replacements; there's no periodic painting and puttying, no wood or metal sash to rot, decay, rust or corrode. They have more than twice the insulating value of ordinary, single-glazed windows, so they help control temperature and humidity; reduce condensation. This means the elimination of factors that retard production, plus worthwhile reductions in your heating and air-conditioning costs. And PC Glass Blocks admit floods of natural daylight over wide working areas, prevent the infiltration of dust and grit, deaden noises, cut off distracting outside views.

Consult our specialists regarding your particular sash replacement problems. There is no obligation on your part. Meanwhile, fill in and return the coupon for our free, fully-illustrated booklet on the use of PC Glass Blocks in industrial buildings.

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PITTSBURGH PC CORNING

GLASS BLOCKS
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Without obligation on my part, please send me a FREE copy of your booklet, "The mark of a modern building—PC Glass Blocks."

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Address.....
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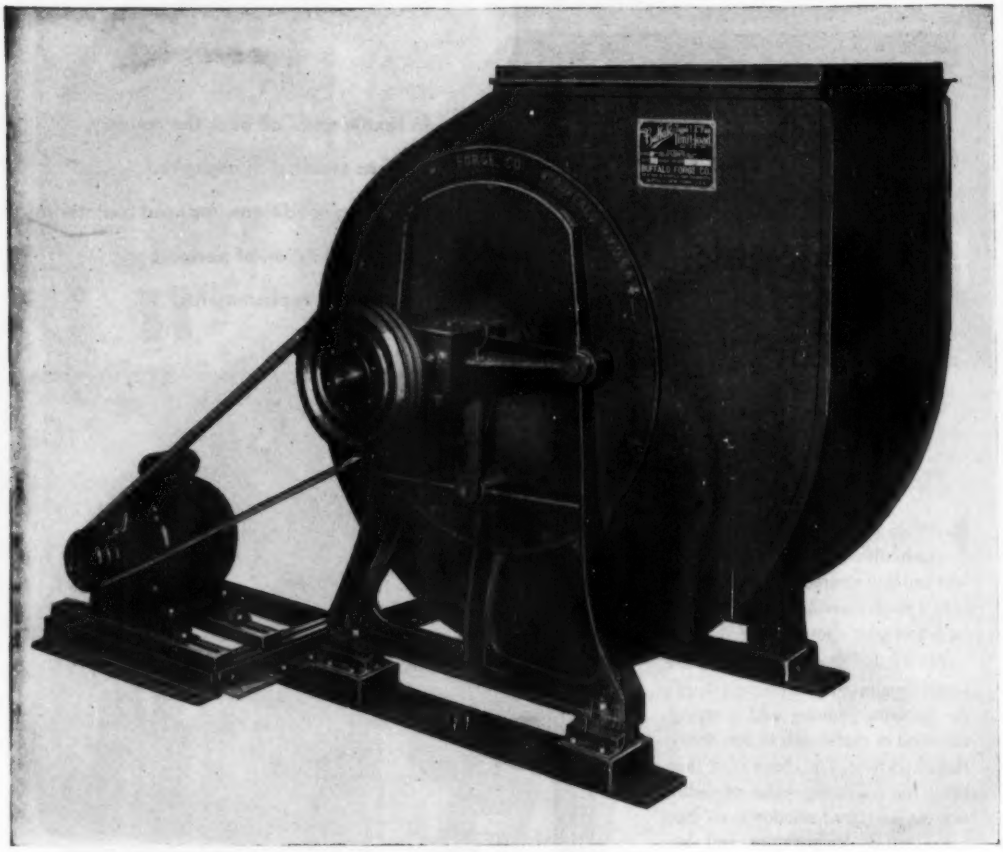
Distributed by Pittsburgh Plate Glass Company, by W. P. Fuller & Co. on the Pacific Coast; by Hobbs Glass Ltd. in Canada; and by leading distributors of building materials everywhere.



BUILT FOR PERMANENT VENTILATION SERVICE!

You can buy cheaper fans than "Buffalo" Limit-Load Fans, but none which give you such a high level of performance, year after year! "LL" Fans are a quiet, medium-speed, high-efficiency design. Their double curved blades and specially shaped inlet vanes . . . their ideally-formed housing scroll . . . their smooth running rotors, precision-balanced at the factory . . . mean the ultimate in air service. These are reasons why non-overloading "Buffalo" Limit-Load Fans are chosen for many of the country's largest ventilating and air conditioning systems. You can pick from a wide variety of arrangements and capacities from 600 to 500,000 cfm. If you plan a *permanent* system, put "Buffalo" Limit-Load Fans in it!

WRITE FOR BULLETIN 3737

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Canadian Blower & Forge Co., Ltd., Kitchener, Ont. Branch offices in all Principal Cities

VENTILATING FORCED DRAFT | AIR WASHING COOLING | AIR TEMPERING HEATING | INDUCED DRAFT PRESSURE BLOWING | EXHAUSTING

For smooth power see your HYDRO-SHEAVE Dealer

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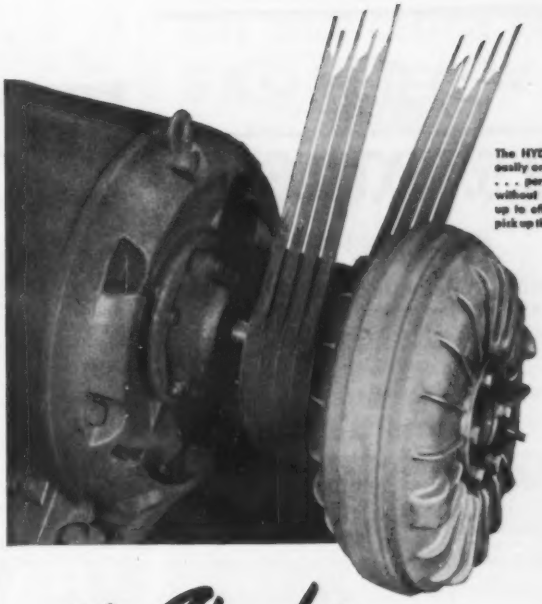
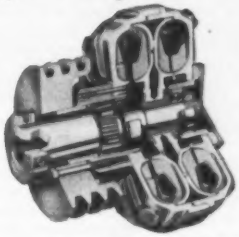


The HYDRO-SHEAVE fits easily on the motor shaft . . . permits the motor, without strain, to come up to effective torque to pick up the load smoothly.

No Shocks... No Strains



When fluid in motion transmits the power from driving to driven units, as in the ready-to-attach Twin Disc HYDRO-SHEAVE DRIVE, you obtain full-torque performance—minus shocks and strains . . . a smooth, sustained flow of power that means longer work-life for your equipment.

Moreover, you have overload protection. The load may be at a complete standstill, but the *motor* can't stall.

Most important, the pick-up and the acceleration of the load are so smooth that you can often speed up the production cycle to lower costs . . . and often further lower costs by selecting a motor to fit running load requirements rather than starting requirements.

All of these are built-in features of the Twin Disc HYDRO-SHEAVE DRIVE—which requires only a few minutes to install. Ask any of the dealers listed here to give you more facts on how this hydraulic drive will save you money in the long run.

TWIN DISC
CLUTCHES AND HYDRAULIC DRIVES

Clutches & Hydraulic Drives

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois

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and Yarns
UNITED STATES RUBBER COMPANY

It Runs BEST
because it *IS* BEST!

That's why our customer list of yarn users in every industry, sparkles with quality names. We are proud of these customers, because only the best can go into their products. It is very satisfying to consistently produce the quality yarns that help us be a part of their successful future.

COMBED YARNS
8's to 50's — singles

CARDED YARNS
2's to 30's — single and ply

SPUN YARNS
viscose, acetates, blends
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DYNEL YARNS

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UNITED STATES RUBBER COMPANY

1230 Avenue of the Americas, New York 20, N. Y.

Manufacturers of yarn and fabrics for Home and Industry

BRANCH OFFICES:
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NEWS ABOUT Suppliers

Equipment Suppliers

Burlington Engineering Co., Graham, N. C., has named Edwin H. Williamson vice president in charge of manufacturing. J. A. Okey, former vice president in the company sales department, is no longer with the firm.

William Crabb & Co., Black Mountain, N. C., has appointed as manager J. G. Hetherington, formerly with Sykes, Inc., Boston, Mass. Mr. Hetherington is setting up a new sales program for the firm.

Emmons Loom Harness Co., Lawrence, Mass., recently added Hendrik Van Brederode to its sales staff. He represents the company in northern New Jersey, southern New York State, and eastern Pennsylvania.

Foxboro Co., Foxboro, Mass., has opened a branch office in Knoxville, Tenn. Marvin L. Cleaton, Jr., formerly in charge of the company office at Columbus, Ohio, is branch manager at Knoxville.

General Electric Co., Schenectady, N. Y., has made the following personnel changes: William F. Oswalt and Frank T. Gamec are now assistant manager of manufacturing and production manager, respectively, of the control division at Schenectady; Elmer F. Paul is manager of manufacturing at the specialty transformer and ballast divisions at Fort Wayne, Ind. The company recently instituted its 15th "More Power to America" educational training course in motor selection and application.

Hyatt Bearings Div., General Motors Corp., Harrison, N. J., recently appointed Frank U. Naughton manager of its Eastern sales division, succeeding W. L. Iliff, who died in February. The new manager had been a sales engineer for the firm since 1924, serving in the Philadelphia, New England, and the Southeastern territories.

Johns-Manville Corp., New York, has named William R. Wilkinson vice president for sales and Kenneth W. Huffine vice president for production. Mr. Wilkinson was formerly a general merchandise manager, and Mr. Huffine was in charge of the general engineering department.

R. F. MERWIN has succeeded O. F. Merwin as president and general manager of Erie2 Mfg. Co., Erie, Pa. The new president had been sales manager, vice president, and general manager. O. F. Merwin, now chairman of the board, founded the firm in 1942 when he was 70 years old.

Link-Belt Co., Chicago, Ill., recently elected Robert C. Becherer vice president. Harry G. Andersen, former district sales engineer at Milwaukee, Wis., is now district manager at Birmingham, Ala. Richard Moyer is now general manager of the North Central division, located at Minneapolis, Minn. Fred B. Skeates succeeds Mr. Moyer as general superintendent at the Pershing Road plant in Chicago, Ill.

Minneapolis-Honeywell Regulator Co., Brown Instruments Div., Philadelphia, Pa., has named three new industrial managers: Joseph H. Matulis at the Chicago office, Willard Smith at Pittsburgh, Pa., and Joseph H. Bowman at Buffalo, N. Y. New assignments to the industrial field staff include Louis D. Gercken to Charlotte, N. C.; Harry L. Kay to Rich-

FRIEND OF THE PLANT OWNER... WHO HAS A WET SURFACE MAINTENANCE PROBLEM

The Damp-Tex system of painting kills rust, rot, fungus and bacteria. Stops deterioration. Can be applied on any paintable surface, *wet* or dry, with equal ease and efficiency... changing dingy, rough light-blotter interiors into glistening porcelain-like beauty. One coat covers. Resists acid, alkali, corrosive gases and oxidation. Dries overnight without flavor-tainting odor into waterproof film. Comes in white and colors.

Write for our trial offer AA.

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STEELCOTE MFG. CO. • ST. LOUIS, MO.

Canadian Manufacturer—Standard Paint & Varnish Co., Windsor, Canada

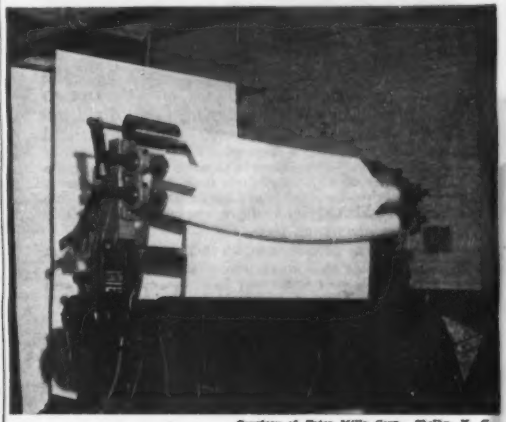
CUT OUT CLOTH ROOM SLOWDOWNS

Prevent Cloth Damage on Shearing Machines with

Mount Hope

SLACK SELVAGE ELIMINATOR

Cloth Room men report, "New Mount Hope unit with two expanders and pivoted roll controls selvage slack—eliminates cut selvages on shearing machines".



Courtesy of Bates Mills Corp., Shelby, N. C.

Installation of Mount Hope Slack Selvage Eliminator on Shearing Machine

The above illustration shows one of the cloth room uses of Mount Hope free wheeling Expanders. This new Mount Hope Slack Selvage Eliminator is mounted on the entrance to shearing machine.

Wherever there's a cloth wrinkling and spreading problem, there's a Mount Hope Expander installation to fit your requirements. Avoid costly slowdowns and spoilage due to wrinkles and slack selvages. Speed up your Cloth Room operation. A Mount Hope Engineer will be glad to advise you upon request.

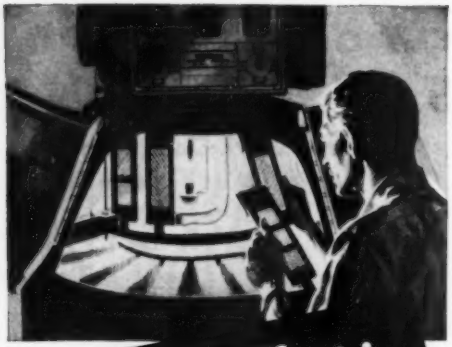
SEND FOR BULLETIN TODAY.

Cloth Handling Devices

MOUNT HOPE MACHINERY CO.

42 Adams St., Taunton, Mass.

Representatives — Parkman Collins Company, Boston—for Maine • Ingalls Engineering Company, Providence—for N. H., Mass., R. I., and Conn. • John H. Andresen, Inc., Paterson—for Southeastern N. Y., N. J., and Pa. • A. B. Julin, Watertown, New York—for Northern and Western N. Y. • Slaughter Machinery Company, Charlotte—for the South • S. S. Wilson, 1737 Howard St., Chicago—for Mid-West • Sidney Springer, Los Angeles—for California • W. J. Westaway, Ltd., Hamilton and Montreal—for Canada.



For 25 years . . . 5 weeks of sunshine every day!

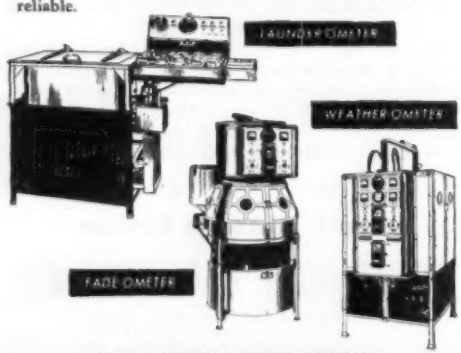
In January of 1924, General Aniline & Film Corporation purchased its first Atlas Fade-Ometer for use in the company's research laboratory as the means for testing the lightfastness of General Aniline dyestuffs under accelerated conditions. In 1949 this same machine—after 25 years of dependable use—was turned in to us on the purchase of a new machine which immediately took its place alongside the many other Fade-Ometers bought by General Aniline (The Model FDA pictured above was purchased in 1940) during the intervening years.

By subjecting product samples to Fade-Ometer testing, General Aniline technicians can accurately foretell how dyed materials will wear and look in any climate and however used. Thus, the General Aniline reputation for quality is carefully protected at all times.

* * *

The source of light in the Fade-Ometer in the photo is still as reliable as it was on the day the machine was delivered, and is still the most accurate reproduction of Noon June sunlight ever devised.

Throughout the years, however, Atlas has maintained its own research program dedicated to improving the entire line of Atlas-Ometers—the Fade-Ometer, Weather-Ometer, and Launder-Ometer. The result has been machines that are simpler to operate, faster in providing results, more economical, and as always—thoroughly reliable.



ATLAS ELECTRIC DEVICES COMPANY

361 W. Superior St., Chicago 10, Illinois

Manufacturers of accelerated testing devices for more than a quarter of a century

NEWS ABOUT SUPPLIERS (Continued)

GEORGE E. HELM (left) has been made sales manager of Acme Steel Co., Chicago, Ill., in a new sales district in Baltimore, Md., and environs. CHARLES E. KLINCK is now Philadelphia district sales manager, succeeding Charles J. Bruneel. BRUCE E. CUNNINGHAM (right) has been assigned to a newly created position of metropolitan-area special representative working out of New York.

mond, Va.; and John R. Morrison to Greenville, S. C.

Muschamp Taylor Ltd., Manchester, England, has named as a director L. V. Potter, who has been in charge of production at the three company factories. Mr. Potter has been with the organization since 1927.

Process Heating, Inc., Brooklyn, N. Y., recently appointed as its Southern representative Redman Engineering Service, High Point, N. C. The Redman organization will cover Virginia, the Carolinas, Georgia, and Alabama.

Riggs & Lombard, Inc., Lowell, Mass., has appointed H. E. Mott Co. Ltd., Brantford, Canada, its exclusive selling agent in Canada.

Signode Steel Strapping Co., Chicago, Ill., has opened a permanent office in Chattanooga, Tenn., to service parts of Alabama, Georgia, Kentucky, and Tennessee. The office is headed by Joseph T. Holleman.

Towmotor Corp., Cleveland, Ohio, recently elevated Lester M. Sears to chairman of the board. The founder of the company was succeeded in the presidency by C. Edgar Smith, executive vice president. Robert L. Fairbank has joined the organization as sales manager.

Victor Ring Traveler Co., Providence, R. I., at its recent annual meeting elected Edwin R. Jerome vice president and general manager of the company. Mr. Jerome has been with the firm for 41 years.

Westinghouse Electric Corp., Pittsburgh, Pa., has named Mark W. Cresap, Jr., vice president and assistant to the president. Co-founder of a management-consultant firm, Mr. Cresap will be engaged in organization and procedure work at Westinghouse. The company has established two trust funds, involving an initial payment of $14,000,000 to two bank trustees, for the administering of contributions to the new employee-pension program.

Chemical and Yarn Suppliers

American Cyanamid Co., Calco Chemical Div., Bound Brook, N. J., recently named Dr. Victor E. Wellman director of the process-engineering department. Formerly associate director, he will supervise process-development and chemical-engineering activities.

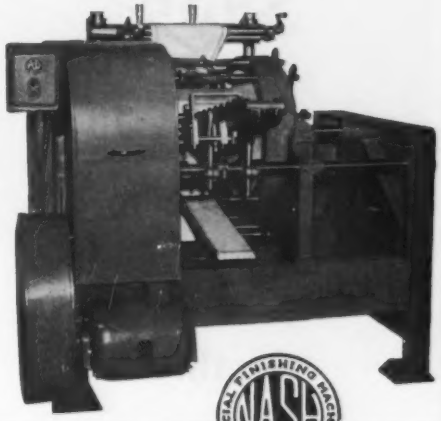
American Viscose Corp., New York, plans to expand production at its plants at Nitro, W. Va., Front Royal, Va., and Roanoke, Va. Products being stepped up include viscose staple and rayon tire cord. The ECA recently presented Textile Research Dept., Marcus Hook, Pa., a certificate of cooperation in recognition of technical assistance given various European productivity and trade-union groups.

Arnold Hoffman Co., Inc.,

SAVE the Expense of Hand Washing with the No. 89 Nash AUTOMATIC BOBBIN WASHER

Washes flanged bobbins at 28 pieces per minute!

Textile mills throughout the country are finding the Nash No. 89 a time and money saver. It's a ten-spindle machine that does the entire washing and wiping operation automatically from start to finish. Eliminates the time and expense of hand washing. No dirt is left on the bobbin which would soil the yarn on the finished fabric. The cleaning solution used has a 140-degree flash point and is not toxic, assuring safe machine operation. The solution has no harmful effects on yarn, either natural or synthetic.



Write for complete descriptive bulletin

We also manufacture Automatic Bobbin Finishers, Quill Polishers and special-purpose machinery.

J. M. NASH COMPANY

DEPT. BW-89—2364 N. 30TH STREET MILWAUKEE 10, WISCONSIN

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MAY BE YOUR ANSWER TO MANY

MILDEW PROBLEMS

technical service available

R. T. VANDERBILT CO. INC. 230 PARK AVENUE, NEW YORK 17, N. Y.

THE YEARS HAVE PROVEN THEIR QUALITY!

OSA

SANT' ANDREA MACHINERY For Processing Long-Staple Synthetics

The trend towards using synthetics for outerwear fabrics requires machines that are specially designed to process *long staple* fibres. Sant' Andrea machines will do this for you with maximum economy—give your synthetic yarns the desirable worsted characteristics. Our many years of experience in this field are at your disposal always.

S. A. Officina Meccanica

SANT' ANDREA

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Agents for U. S. A.

ERNEST L. FRANKL ASSOCIATES

22 East 40th Street, New York

NEWS ABOUT SUPPLIERS (Continued)

Providence, R. I., plans to build a 10,000 sq.ft. laboratory and warehouse at Teterboro, N. J.

Borne Scrymser Co., Elizabeth, N. J., has made known that Frederick L. Eckstrand has resigned his position as director of sales. He is setting up a consulting service at Westfield, N. J.

Carbic Color & Chemical Co., Inc., New York, recently sponsored a dinner tendered to Ben Verity by his friends in the Rhode Island area on the occasion of his retirement after 62 years in the industry. For the last 16 years he had been with Carbic Color and Chemical Co. He was presented with a miniature greenhouse.

Celanese Corp. of America, New York, recently filed with the SEC a registration statement covering $100,000,000 principal amount of sinking-fund debentures, due April 1, 1976, and 1,000,000 shares of $100 preferred stock series A, convertible into common stock. Proceeds will be used for redemption of outstanding funded debt, retirement of first preferred stock, and general corporate funds. Some of the latter will be used for the erection of a new chemical plant in Texas, for the installation of additional equipment for the production of Fortisan, and for additional facilities for the production of acetate staple. A later announcement last month revealed the cancellation of the registration of the $100,000,000 worth of sinking-fund debentures. This step cuts the original over-all $200,000,000 offering in half.

Colloids, Inc., Newark, N. J., has appointed Henry E. Talbot, for many years with Westover Fabrics, Inc., West Warwick, R. I., to technical sales service in the New England Division. He is handling preparatory-process problems for rayon and synthetic weaving mills in the area. William Chivall is now in sales-service work in dyeing and finishing for New England cotton, woolen, and synthetics mills.

Dexter Chemical Corp., New York, has appointed George W. Murray, wool-processing specialist, to a position as New England salesman. A graduate of Lowell Textile Institute, Mr. Murray has worked with woolen mills and processors for over 20 years.

J. WALTER BARR, until recently with Allis Chalmers Mfg. Co., has joined Pneumafil Corp., Charlotte, N. C., as assistant to the president. He is a graduate of Alabama Polytechnic Institute, Auburn, Ala.

Crown Chemical Corp., Providence, R. I. recently elected as president Walter E. Murray, former vice president and general manager of the Warwick Chemical Co. Div., Sun Chemical Corp.

E. I. du Pont de Nemours & Co., Inc., Wilmington, Del., has chosen Carroll S. Anderson to be field project manager to supervise the construction of the company Dacron fiber plant at Kinston, N. C. Manufacturing facilities for Ponsol vat dyes at Deepwater Point, N. J., are to be expanded. About $1,000,000 is involved in the expansion. The company has pledged to make an annual gift of $15,000 for five years to Harvard University, Cambridge, Mass., for the establishment of an annual research professorship in chemistry. The professorship is named for the late Dr. Wallace Hume Carothers, inventor of nylon.

Emkay Chemical Co., Elizabeth, N. J., recently appointed William Jacobson sales representative in metropolitan New York, Long Island, and in the Paterson, N. J., area.

Glyco Products Co., Inc., Brooklyn, N. Y., has added H. H. Pact to its staff as a technical representative for the New England area, located in Providence, R. I. He was for several years manager of the textile department, and later district manager of the N. E. technical-products division of E. F. Drew & Co.

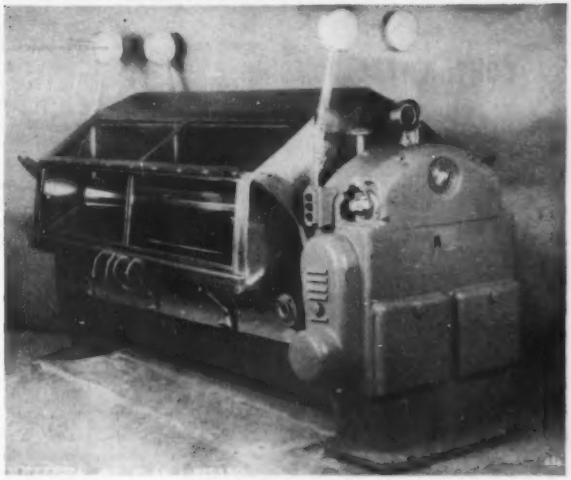
TENSIONLESS DYE JIG

- **Preferred for Delicate Fabrics**
- **Completely Automatic Reversing and Stopping**
- **Gradual Starting, Constant Speed**
- **Three Speed Changes**

Constructed in four widths:
43", 47", 67", 79"

All Working parts are stainless Steel
Totally Enclosed with Safety
Glass Cover

Short Term Delivery



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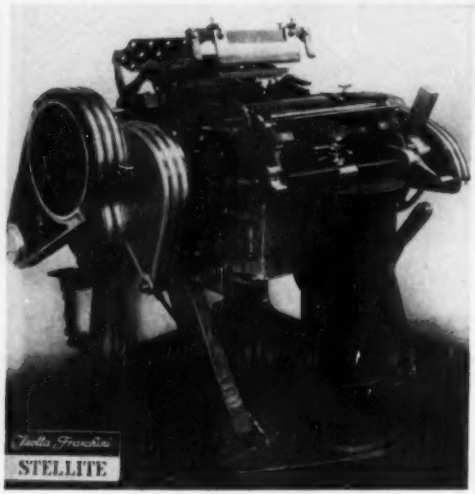
TEXTILE MACHINES S. P. A..

Isotta Fraschini

CONTINENTAL COMBING AND SPINNING MACHINERY FOR SYNTHETICS



COMB for Synthetic fibers

from 1" to 8" staple

with

MODIFIED SWORD to obtain a well-condensed, regular web

FALSE TWIST DEVICE, adjustable, to produce a firm sliver

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MELANGE INTERSECTOR for perfect blends

DRAWING AND SPINNING MACHINERY for long and medium staple synthetics—also for short synthetic waste

Write today for complete information

STELLITE AMERICAN CORP.

Sales Representatives of Stellite Soc. in Acc. Sempl. Milan, Italy

60 East 42 St., New York 17 Phone: Murray Hill 7-0413

NEWS ABOUT SUPPLIERS (Continued)

Hartford Rayon Corp., Hartford, Conn., recently elected James D. Wise, president of Bigelow-Sanford Carpet Co., president of the corporation, succeeding William Steinschneider. Plans for conversion and expansion call for a tripling of present capacity of staple-rayon carpet yarns and/or fine-denier weaving yarns.

Hercules Powder Co., Wilmington, Del., through its subsidiary in Britain, has entered into an agreement with James Nelson Ltd., Lancashire, England, and Erinoid Ltd., Gloucestershire, for the production of cellulose flake. Part of the cellulose acetate produced will be used in the production of cellulose-acetate yarns for Nelsons Silk Ltd., a James Nelson Ltd. subsidiary.

Libbey-Owens-Ford Glass Co., Cleveland, Ohio, has named Robert E. Worden general manager of the new Fiber Glass division of the company during its development. Building alterations to prepare for the installation of fiber-glass machinery are now under way at the Parkersburg, W. Va., plant as the first step in equipping the new division for operations.

Sun Chemical Corp., Warwick Chemical Co. Div., Long Island City, N. Y., recently appointed Herman Goldstein manager of production and development. S. Y. Stribling is now sales manager of the company pigment colors.

Surpass Chemical Co., Albany, N. Y., has added Edward A. Chevrette to its sales and technical-service staff. He had been superintendent of bleaching, dyeing, and finishing at Brown Knitting Co., Warsaw, N. Y.

O. P. PROUDFOOT has been made manager of the Cleveland district sales office of Cutler-Hammer, Inc., Milwaukee, Wis., succeeding R. J. Eckstein, who died recently. The company has opened a sales office in Charlotte, N. C., staffed by Frank A. Miller, Jr., and C. Lee Shaw. The Charlotte office is a branch of the Atlanta district sales office.

Wyandotte Chemicals Corp., Wyandotte, Mich., plans to increase its soda-ash capacity by 20% and to raise its chlorine production to 220 tons per day within the next two years. Speed of the expansion at three of the company plants depends on the availability of materials. Work has begun on a new pilot plant and research center.

Other Services

Fabric Research Laboratories, Inc., Boston, Mass., has added to its staff Carter G. Cook, former development chemist with A. C. Lawrence Leather Co. He will apply his background in leather to problems in textiles and paper technology that involve coating and finishing compounds.

Hatch Textile Research Textile Technologists, New York, for 25 years consultants to the textile industries, celebrated on May 1 its Silver Anniversary as an organization in the textile field.

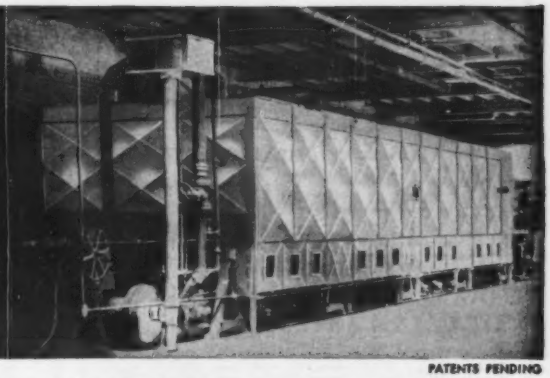
International Correspondence Schools, School of Textiles, Scranton, Pa., is offering a new home-study textile-engineering training course that can be slanted to many different jobs in the textile industry. Students may elect to specialize in one of four branches after they have finished their basic training: i.e. engineering, manufacturing, chemistry, or sales engineering.

Lockwood Greene Engineers, Inc., New York, has elected to its board of directors staff members John R. Potter of Boston, Mass., Harry E. Martin of New York, and H. Morgan Rogers, Jr., of Spartanburg, S. C.

Textile Research Institute, Princeton, N. J., plans a new building that will add approximately 3,000 sq. ft. of floor space to its present facilities. The building will be used initially to house computing laboratories, shops, and other non-chemical research equipment.

Another "first"!

CARBOMATIC "UNA-RAY" OVEN



PATENTS PENDING

COMBINES the advantages of 3 types of oven-heating:
(1) INFRA-RED RADIATION (2) CONVECTED HEAT (3) HEATED AIR—with added turbulence

Greatly increased efficiency! For example: *40* linear feet of "Una-Ray" Oven equal the productive capacity of *70* feet of a conventional oven-type. Saves thousands of dollars in equipment cost and operational economies. No burning, scorching, spotting or marking of goods. No crocking. No "gas fading" or color migration. Uniform color is insured. A general-purpose oven (of any capacity needed) that provides accurately-controlled working temperatures up to 550°F. For drying; drying and curing in one operation; resin fusing; Nylon setting, etc. *Write for Bulletin TW-5*

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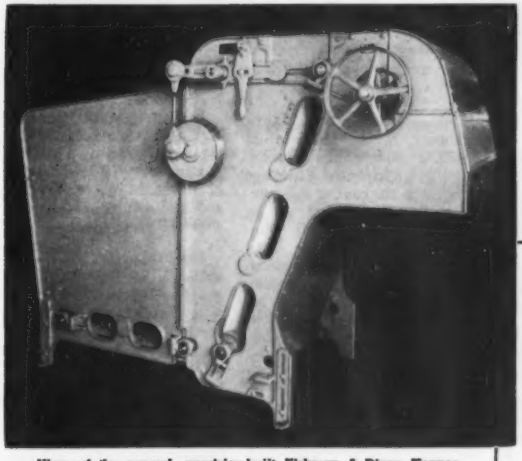
24-81 47th Street Long Island City 3, N. Y.

Southern Branch: Textile Specialty Co., Greensboro, N. C. New England Representative: H. E. Linderson, 35 Westminster St., Providence, R. I.



View of the rugged, precision-built Kirkman & Dixon Hopper Feeder, showing exterior detail, including Sargent Comb.

KIRKMAN & DIXON
HOPPER FEEDER

WE BUILD HOPPER FEEDERS IN ANY WIDTH IN ANY OF THE FOLLOWING COMBINATIONS:

1. Without Sargent Comb, with standard kick roll and plain bearings.
2. Without Sargent Comb, with standard kick roll and ball bearings.
3. With Sargent Comb and plain bearings.
4. With Sargent Comb and ball bearings throughout.

Write, wire or telephone us for information about Hopper Feeders, Waste Machines, and Opening and Picking Machinery

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P. O. Box 1027 Greenwood, South Carolina
Parts for Opening and Picking

MANUFACTURERS OF THE K & D SINGLE CYLINDER WASTE MACHINES, IN SINGLE OR TANDEM APPLICATIONS

The New AMERICAN SPEED SET GEAR CONSTRUCTION NUMBERING MACHINES

Case 1764
Style 1235-16
No. 12345
Sheets 56⅞ 56⅝

Designed Especially For
MARKING TEXTILE MILL TAGS TICKETS, LABELS, Etc.

Modern textile merchandising demands CLEAR, EASILY READ piece, lot and case numbers, size and yardage lengths, etc. Supply this demand and use the new American Speed Set Gear Construction Numbering Machines. Such numbering with Speed Set machines can be done quickly and easily. Numbers change instantly with touch of fingers and ANY COMBINATION OF NUMBERS can be quickly obtained. All steel wheels, deeply engraved figures, self inking.

Eliminate errors and see that your tags, tickets, labels, etc., are attractively and legibly numbered the SPEED SET way. WRITE TODAY FOR FOLDER describing these new machines used in Cotton, Woolen, Hosiery, Knit Goods, and Dyeing and Finishing plants.

American Numbering Machine Co.
ATLANTIC & SHEPHERD AVES. BROOKLYN 7, N. Y.

For Maintained Shrinkage—
Perfect Finish—Long Life

HUYCK
COMPRESSIVE SHRINKAGE
BLANKETS

for use in shrinking fabrics to the *"Sanforized"* standard by the Compressive Shrinkage process, are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the heaviest denim, there is a special Huyck blanket to meet your specific needs.

Huyck blankets retain high shrinkage and finish properties to the last.

PALMER BLANKETS—also available for your special requirements.

Write for information
or see our representative

F. C. HUYCK & SONS
KENWOOD MILLS
Rensselaer, N. Y.

NEWS ABOUT Mills

Cotton Mills

American Yarn & Processing Co. is constructing a $200,000 yarn-spinning plant at Mount Holly, N. C., that will be incorporated as Fiber Products, Inc. In addition to spinning yarns from synthetic fibers, the plant will serve as a pilot unit for research and development in conjunction with American Yarn & Processing and its subsidiaries. The new plant will employ from 50 to 75 workers.

Arkwright Mills Corp., Arkwright, S. C., will open a 14,000-spindle carded-yarn mill at Camp Croft, S. C. Plant will be located in two former Army warehouses and will have about 50,000 sq. ft. of floor area. The project will cost about $700,000, of which $600,000 will be invested in machinery. The plant will employ 75 persons and will produce about 45,000 lb. of yarn per week.

Albert J. Batson plant at Lavonia, Ga., recently completed an expansion program. The mill manufactures upholstery fabrics.

Beaumont Mfg. Co., Spartanburg, S. C., plans to install a modern humidity-control and refrigerated air-change system in the carding and spinning department that will be completed by early fall. Windows in the plant are being bricked to increase the operating efficiency of the new equipment. The company has changed a large amount of its equipment over to the production of materials for the Armed Forces. Weaving capacity has been increased by the installation of 128 modified Draper model-D looms and 95 model-P 32-in. looms. Additional twisters are being added, and a new beamer has been installed in the slasher room.

Bristol Lace Works, Bristol, R. I., has authorized plans for two one-story additions on a local site recently acquired.

Dwight Mfg. Co., Alabama City, Ala., plans an addition that will add 46,000 sq. ft. of floor space to the present area.

Fieldcrest Mills Towel Mill, Fieldale, Va., has broken ground and begun excavation for construction of two additions that will provide 30,000 sq. ft. of additional space. Both additions will tie in at the north end of the present finishing department of mill. John Smith & Sons, Leaksville, N. C., is builder. Robert & Co. Associates, Atlanta, Ga., is architect.

Gold-Tex Fabrics Corp., Rock Hill, S. C., has completed a number of installations and improvements at a cost of $150,000. Plans are being made for additional modernization and improvements in plant machinery and equipment.

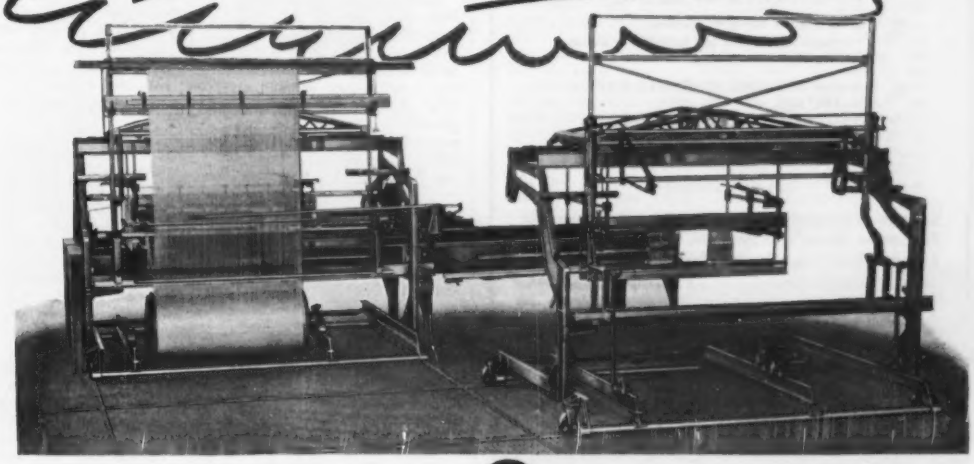
Harmony Grove Mills, Commerce, Ga., has let a contract to Toccoa Roofing & Sheet Metal Co., Toccoa, Ga., for improvements in the mill. J. E. Sirrine Co., Greenville, S. C., is architect and engineer.

Ix Cotton Mills, Lexington, N. C., is adding 120 new wide looms to its plant. The addition increases the total number of looms by about one-third and will entail employment of about 50 more workers.

Israel Government, represented in the United States by the Jewish Agency for Palestine, New York, has set up a four-year development plan calling for capital investment of $9,000,000 in textile plants, in addition to $11,000,000 invested in this industry. Projects to be constructed are a 15,000-spindle cotton mill for medium-count yarns, and similar units for fine combed-cotton yarn with mercerizing and gassing equipment; a poplin-weaving mill with annual capacity of 2,500,000 yd.; and a worsted-spinning and weaving mill of 5,000 spindles and 100 looms, with combing equipment, and an annual capacity of 1,000,000 lb. A jute-spinning and -weaving mill, a thread mill, a glove-knitting mill, and

BARBER COLMAN

FASTER REPLACEMENT
STRAIGHTER WARPS
LOWER COSTS



BARBER-COLMAN MODEL G *Warp Drawing Machine*

The Model "G" Barber-Colman Warp Drawing Machine is designed to be used in a wide variety of weaving mills and is particularly valuable to manufacturers of dobby fabrics, shirtings, suitings, and dress goods. This machine is also extremely useful for mills weaving broadcloth, ginghams, fancy rayons and cotton specialties and sheeting. Mills that use up to 20 or 24 harness shafts in the construction of fabrics and 8 or less banks of warp stop motion, where quick change-over in style and pattern is necessary, will find this model the answer to their warp replacement problem.

Field reports show up to 3000 Ends per Hour
Draws warps from 10 to 300 ends per inch
Draws from flat sheet or 1 x 1 lease
Draws from single or double beam, or split sheet
Draws 1 x 1 lease in double beam or split sheet

Warp threads are drawn through drop wires, heddles and reed
IN ONE OPERATION
from any predetermined draft

HARNESS FRAME LENGTHS	
Size of Machine	Maximum Overall Length of Harness
48	54"
66	72"
86	92"

MODEL "G" MACHINE CAPACITIES
The Model "G" can be furnished in the following capacities at no difference in cost:
Reed, 20 Harness, 8 Banks of Drop Wires
Reed, 22 Harness, 6 Banks of Drop Wires
Reed, 24 Harness, 4 Banks of Drop Wires
DROP WIRE CAPACITY: 9/32" through 3/4" wide

WILL DRAW
- Cotton Yarns
- Filament Yarns
- Spun Yarns
- Woolens and Worsteds
- Monofilaments

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

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ROCKFORD • ILLINOIS • U. S. A.
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TO THE TEXTILE INDUSTRY FOR OVER ½ CENTURY

Announces:

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2. Inauguration of a new Methods and Materials Handling Division with headquarters in New York Office.
3. Appointment of David P. Canavan in charge of Methods and Materials Handling and the New York Office.
4. Expansion of BARNES EXECUTIVE SERVICE FOR TEXTILES
   Barnes men of wide executive experience are made available to mill management for short or long periods.

Inquiries are invited

Surveys—Reorganizations—New Plant Developments for Cotton, Wool, and Synthetic Yarn and Cloth Processing, Bleaching, Dyeing, Printing and Finishing.

★ Plant Appraisals ★ Mechanical and Operating Surveys — New Methods ★ Scheduling and Planning ★ Work Load Studies, Job Analysis and Evaluation, with Incentive Plans ★ Standard Cost Installations ★ Cost Control Methods

Labor-meter Burden-meter Waste-meter

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10 HIGH STREET, BOSTON 10, MASS.
315 MONTGOMERY BLDG., SPARTANBURG, S. C.

COLOR MATCHING
with
PHOTOVOLT Photoelectric REFLECTION METER

A truly practical precision instrument for color matching and for specifying color by tristimulus values, also for fading and detergency tests . . . for production, control and laboratory work.

Portable, sturdy, simple to operate

Write for Bulletin #605 to

PHOTOVOLT CORP.

95 MADISON AVENUE NEW YORK 16, N. Y.

***Also:* Colorimeters, Fluorescence Meters, pH Meters**

NEWS ABOUT MILLS (Continued)

a carpet scouring plant are planned for future construction. Enterprises established by foreigners in Israel will be allowed to take out of the country up to 10% of the capital investment each year in the way of profits.

Lanett Mill, West Point Mfg. Co., Lanett, Ala., has installed a complete central-station air-conditioning system in its weave room, which contains 2,500 looms. West Point Mfg. Co. has also announced plans for construction of a one-story building at Riverside Mills, Riverside, Ala., at a cost of about $35,000.

Mandeville Mills, Carrollton, Ga., has installed a large number of new drawing deliveries to replace old equipment in No. 2 card room.

National Felt Co., Easthampton, Mass., plans a new two- and three-story addition to its mill to provide space for increased production. Alderman & MacNeish, Springfield, Mass., is architect.

Newnan Cotton Mills, Newnan, Ga., is installing cleaning equipment in Mill No. 1 at a cost of $50,000, new winders in Mill No. 2 at a cost of $35,000, and new crush-resistance and resin-treatment equipment in its finish-plant at a cost of $50,000.

Opelika Textile Mills, Inc., Opelika, Ala., has changed its corporate name to Opelika Mfg. Corp. The change was due to the nature of operations, which include manufacture of washable service apparel as well as cotton fabrics.

F. W. Poe Mfg. Co., Greenville, S. C., has completed an air-conditioning program, reported to have cost in excess of $250,000. The entire operation included the construction of air-conditioning towers, apparatus towers, and installation of equipment and facilities for the complete air conditioning of plant. Existing window openings were bricked up in carrying out the program.

Roanoke Mills Co., Roanoke Rapids, N. C., has let a contract to Industrial Builders, Inc., Anderson, S. C., for extensions and improvements in the water-filtration plant at the mill, including installation of new equipment. Cost is reported at about $140,000.

Sibley Mill, unit of Graniteville Co., Augusta, Ga., has completed the installation of a new slasher room with latest equipment, including automatic controls. New equipment was installed in the dye room and includes a new dryer. Plans for installation of new box looms and other types of looms to replace present machinery have also been announced as part of the modernization program.

Spartan Mills, Spartanburg, S. C., has ordered extensive equipment for a modern humidity-control and refrigerated air-change system for card rooms in its No. 1 and No. 2 plants. Housing for equipment is available, and no additional construction is planned. Completion is expected by early fall.

Spindale Mills, Spindale, N. C., has begun work on a $40,000 addition for expansion of its card room. The addition will be of concrete, brick, and steel construction and will measure 27x100 ft. The construction is under supervision of plant foremen and is expected to be completed in a few months. Air conditioning is being installed in the spinning room by Carrier Corp. Similar systems were installed in the card room and weave shed not long ago.

Startex Mills, Tucapau, S. C., is constructing a three-story addition at its print-cloth mill. The additional space will make room for 22 new cards and ten model-FS2 roving frames. The mill is also installing H & B spindles for warp spinning and has completed installation of a new electric-power substation.

Swift Mfg. Co., Columbus, Ga., has completed the construction of a three-story addition, originally scheduled for completion by the end of 1950. Building cost was more than $200,000. The addition provides facilities for doubled output of fiber fabrics and plastic fabrics for the automotive industry.

Victor-Monaghan Co., has begun a modernization program at its Greenville, S. C., plant that includes construction of a new truck dock, freight-ele-

SLAT APRONS by SARGENT

SARGENT has unlimited facilities for making slat aprons of all types and sizes, and to your exact requirements . . . feed aprons and conveyor aprons for various machines . . . doffer aprons for Wool Washing and Drying Machines . . . bottom and spike aprons for Automatic Feeders of all types. All are made from selected beech or maple that has been thoroughly air dried. Slats are fastened to chains, to leather or to rubber belts. Illustrated . . . are typical Sargent Spiked Aprons built up on especially strong malleable iron chains, supplied with convenient *coupling links*. These aprons also can be supplied with corrosion-resisting bronze chains, and either monel or stainless steel pins in the slats. Before ordering slat aprons please write us for Complete Information Bulletin (No. 182).

C. G. SARGENT'S SONS CORPORATION
Graniteville, Massachusetts, U.S.A.

LARGEST MANUFACTURERS OF STOCK DRYING AND WOOL WASHING EQUIPMENT IN AMERICA

SINCE 1852

WORLD-FAMOUS

SCHLUMBERGER COMB

for French-Type
Worsted Mills

OUTSTANDING for ready accessibility of all operating parts (including cylindrical comb) and for remarkable cleanliness of product. Settings made quickly.

Also other worsted preparatory machinery

U. S. Representative: LESLIE A. FIELD, 230 Princeton Blvd., Lowell, Mass.

N. SCHLUMBERGER & CIE
GUEBWILLER, ALSACE, FRANCE
Founded 1808

PEOPLE WORK BETTER WHEN THEY

SEE BETTER

Leaves both hands free to work

MENDERS, FIXERS, KNITTERS, MECHANICS, INSPECTORS

MAGNI-FOCUSER is a binocular magnifier, with matched prismatic lenses for optical accuracy. Normal vision may be resumed by slightly lifting head. Can be worn over regular eyeglasses. Comfortably light in weight.

Precision workers do the job faster and more accurately with a MAGNI-FOCUSER. Leaves both hands free to work. Gives needle-sharp binocular magnification, third dimensional vision—with less eyestrain. It restores the usefulness of the skilled hands of many older workers whose vision needs a seeing aid. Now in use in leading textile plants. Particularly applicable to 60 gauge, 15 denier yarn. 10 day trial without obligation. Return if not satisfied. $10.50—Folder on request.

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480 Lexington Ave., New York 17, N. Y.
Cable Address: "SEEBETTER"

M-B "AMOSKEAG" PNEUMATIC ROLL PICKER

MODEL A-VT-A
20,000 R.P.M.

This is NOT a grinder, but the original pneumatic tool especially designed for the SPECIFIC Purpose of REMOVING LINT and FLY from the top rolls and other parts of the drafting elements on SPINNING FRAMES also ROVING FRAMES

Spindle design permits using PICK (which gathers the fly and lint), 3/16" diameter by 5" long when used on Spinning Frames and 3/16" diameter by 7" long when used on Roving Frames. Exhaust air directed back of roll picker to prevent fly and lint from being blown into yarn when spinning. PATENT APPLIED FOR. Weight only 14 oz. Special grease-sealed bearings. No lubrication required.

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46 Victor Ave.
DETROIT 3, MICHIGAN

NEWS ABOUT MILLS [Continued]

vator towers, and warehouse repairs. Construction cost will be over $60,000. Daniel Construction Co., Greenville, is contractor.

Wein Mills has leased its plant at Newberry, S. C., to Harold Aronson of Adel, Ga. Mill will concentrate its production on tobacco cloth. Installation of 31 additional looms will bring total to 65. Mill will operate 24 hr. a day on three shifts.

West Boylston Mfg. Co. has completed a modernization program at its plant in Montgomery, Ala. About 120 spinning frames have been installed. The mill now has about 40,000 spindles and 300,000 sq. ft. of floor space. All opening, carding, spinning, and winding machinery has been replaced without work stoppage. More than 57% of the plant production is now going into defense effort. The mill is owned by United Elastic Corp., Easthampton, Mass.

West Point Mfg. Co., Fairfax, Ala., has low bid from Batson-Cook Co., West Point, Ga., for new addition to unit No. 1; and from Murphy-Pound Construction Co., Columbus, Ga., for new addition to unit No. 4 at local mill. Robert & Co. Associates, Atlanta, Ga., is architect and engineer.

Whitfield Spinning Co., Dallas, Tex., has begun operations in the former A. D. Julliard & Co. mill building and is making tobacco shade cloth. The concern announced plans for adding narrow toweling later. The company has about 7,000 spindles and 196 looms.

Woolen and Worsted Mills

Atlantic Wool Combing Co. has moved into the former Textron mill, Manvill, R. I., which has been idle since Textron discontinued operations there three years ago.

Bachmann-Uxbridge Worsted Corp. plant at Talladega, Ala., plans to begin weaving fabrics for men's wear. The company will add 75 operatives during year as more looms are placed in operation. Work has begun on enlargement of the building to be used as a weave shed for 72 looms.

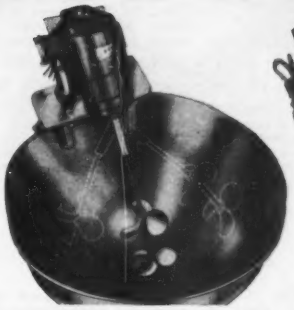
Drayton Div., Deering, Milliken & Co., Spartanburg, S. C., has begun an expansion and modernization program reported to cost in excess of $500.000. The project includes excavation of existing basement to add 3,000 sq. ft. of floor space for the drawing-in department. A new one-story apparatus building of 3,200 sq. ft., to house air-conditioning apparatus for existing weaving mill, will also be built. A new twister building of 19,000 sq. ft. will be constructed over a creek.

Dublin Woolen Mills, Dublin, Ga., is completing installation of a Logan conveyor system to handle quills from strippers to Abbott winders. A system is also being installed to handle bales of wool from receiving dock to storage on second floor.

Franklin Woolen Co., formerly South Acton Woolen

DEERING, MILLIKEN McCormick Mill, McCormick, S. C., has an 86,000-sq.ft. addition under way which together with another addition recently completed, will more than double the capacity of the original mill. The wool-spinning plant is totally enclosed, completely airconditioned, and finished in glazed tile throughout. Daniel Construction Co., Greenville, S. C., is contractor.

"Standard" STAINLESS STEEL STEAM JACKETED SIZE KETTLES



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Our Standard Stainless Steel Steam Jacketed Size Kettles are made of the highest quality materials obtainable. They are produced in 14 sizes with or without covers.

Our Double Clamp Type Portable Mixers are adjustable to any angle without changing clamp position. They can be furnished with any size or type motor.

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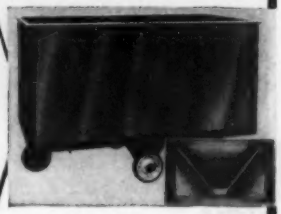

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News About Mills (Continued)

Co., South Acton, Mass., sustained fire loss recently, with damage to several buildings, equipment, and stock reported at $75,000.

Premier Worsted Co., New Braunfels, Tex., plans an expansion program that will give Texas the first fully integrated worsted plant in the Southwest. Installation of weaving equipment will complete facilities. Company will be able to turn out 1,000,000 yd. of worsted fabric annually when the program is completed.

Saxony Mill, Hockanum Div., M. T. Stevens & Sons, Inc., Rockville, Conn., has been sold to a Connecticut printing firm for $25,000. Machinery in plant, which has an estimated value of $150,000, will be moved to other locations of Stevens chain of mills. In 1947, company moved to the South its plant equipment located at Peace Dale, R. I.

Synthetics Mills

Burlington Mills Corp., Greensboro, N. C., plans to spend $75,000,000 on plant expansion and new machinery in 1951 and 1952. Part of this total will be financed by sale of additional stock. Of total expenditures, $20,000,000 will cover additions and improvements to plants, and $55,000,000 will be for new machinery and equipment.

Celanese Corp. of America, Narrows, Va., has sent two company officials to Caracas, Venezuela, to complete arrangements for the construction of a $5,000,000 rayon plant. The plant is expected to have an annual capacity of 5,000,000 lbs.

E. I. du Pont de Nemours & Co., Nylon Div., Chattanooga, Tenn., recently completed an expansion program, started last year, that has increased the productive capacity of the unit through addition of new spinning machines and installation of new equipment in the finishing area to take care of increased yarn output. When in full operation, the plant will require approximately 1,300 employees. Enlargement-program plans were announced within less than a year after the nylon plant turned out its initial yarn. The original investment was approximately $20,000,000.

Eastern Rayon Mills, Inc., has engaged Oscar Kohorn & Co. Ltd., New York, to build a rayon plant in West Virginia that will produce 12,000,000 lb. annually of high-tenacity tire yarn and tow.

General Textile Mills, Inc., Simpson, Pa., has leased Richardson Silk Mill, Eynon, Pa., for storage space. Firm is also planning the construction of a storage building in Simpson at a future date.

Mason Silk Co., Winsted, Conn., has filed plans for 35x 70-ft. one-story addition.

Swift Mfg. Co., Columbus, Ga., recently completed the construction of a three-story addition to provide facilities for doubled output of fiber and plastic fabrics for the automotive field. The building represents an investment of more than $200,000.

Tennessee Eastman Corp., Kingsport, Tenn., recently completed an addition to its plant at Kingsport for the manufacture of cellulose-acetate filament yarn.

Knitting Mills

A-Q Mills, Inc., Timmonsville, S. C., and **Spencer Mills Corp.,** Fort Plain, N. Y., will undertake an expansion program during the next 18 months that will double the output of warp-knit fabric.

Dy-Co Mills, Englewood, N. J., is constructing a new plant at Norwood, N. J. Equipment now located in a leased building in Englewood will be moved to the new plant upon its completion. Additional Kay looms and tricot machines will be installed. When completed, plant will have a total annual capacity of about 5,000,000 yd.

Fieldcrest Mills hosiery mill, Fieldale, Va., plans to construct

new BLACKMER HAND PUMPS

- NEWEST DESIGN IMPROVEMENTS
- GREATER CAPACITIES
- WIDER RANGE OF APPLICATION for LOW OR HIGH VISCOSITY LIQUIDS OF ALL TYPES

New Blackmer Hand Pumps provide easier, faster dispensing from drums or wheel tanks, and for liquid materials handling up to 28 gallons per minute.

FOR COMPLETE DETAILS

Folder illustrates models for dispensing, refueling, underground tank service, etc., with accessories for choice of mounting. Write for folder "HP6."

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WESCO STOPMOTIONS
FOR
OUTERWEAR • UNDERWEAR • HOSIERY

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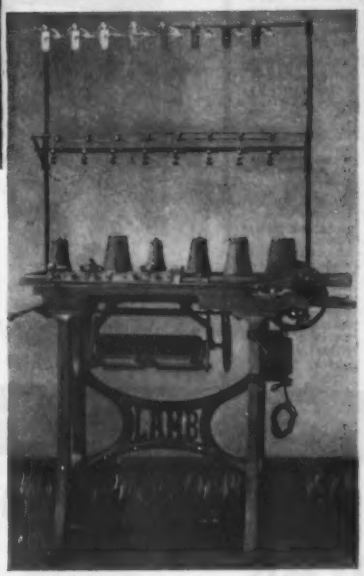

Lambs's Double Head Border Machine
Available with 4-6-8 end Wesco

WESCO Stop Motions eliminate unnecessary press-offs, knitting breakdowns, broken needles, wasted yarns. They keep your knitting efficiency high, your operating overhead low. Installation on any type of machine is simple, speedy. Action is positive.

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on all these knitting machines:

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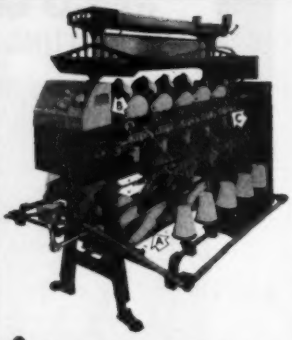
(2) Conditions entire surface of package layer by layer and not the individual thread.

(3) Replaces accurately any amount of moisture lost in previous operations.

(4) Surco®-5 also lubricates — hence produces a better running yarn in all subsequent processing such as warping, knitting, weaving, etc.

(5) Electronic controls permit operating of winder either with or without Surco-5.



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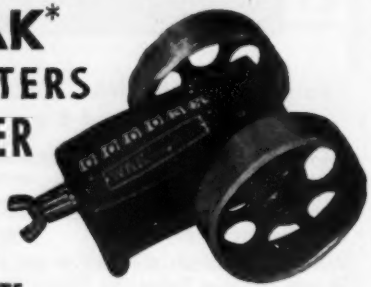

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Reset, Non-reset — Single or Multiple Shift

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WAK INDUSTRIES CHARLOTTE, N. C.

NEWS ABOUT MILLS (Continued)

an addition to finishing building. The addition will be of two- and three-story construction, measuring 100x130 ft.

Grenada, Miss.—City officials have low bid from J. E. Staub & Co., Fulton, Miss., at $98,448, for a one-story addition to the knitting mill of Grenada Industries, Inc., that will be occupied under lease by that company. White Air Conditioning Co., Jackson, Miss., will install an air-conditioning system at a low bid of $69,941. Pritchard & Nickels, Tunica, Miss., is architect and engineer.

Havva Hosiery Mills, Phoenix City, Ala., recently began the production of twisted 15-den. nylon hosiery on 60-gauge full-fashioned machines in its new plant here.

Lavonia Hosiery Mills, Lavonia, Ga., has purchased entire equipment of a hosiery mill in Butler, Ga. Additional equipment will be installed, and knitters will increase production to around 200 doz. prs. per day. Included in the new equipment are dye kettles and extractors, which will enable the mill to buy local yarn and produce the finished product.

Leonard Hosiery Mills, Inc., manufacturers of English rib hosiery, is now operating in Morristown, Tenn., with about 15 workers.

Maryon Hosiery Mills, Inc., Carrollton, Ga., recently took over a building formerly occupied by Dandee Mfg. Co. and is now turning out children's socks at rate of about 70,000 pr. per week. The new building, which has 21,000 sq. ft. of floor space, has been thoroughly renovated. Included in the new set-up are two knitting alleys, with 14 machines for knitting boys' argyle socks; dyeing department; dye-testing room; packaging division; and other facilities.

Mullins Textile Mills, Inc., Mullins, S. C., recently organized, has leased a one-story building soon to be completed by Industries-for-Mullins, Inc., and will equip it as a knitting mill.

Palmetto Full-Fashioned Hosiery Mills, Inc., Saluda, S. C., plans the construction of a new full-fashioned hosiery plant estimated to cost approximately $200,000.

Pohatcong Hosiery Mills, Washington, N. J., will transfer all operations to a building acquired at Asheville, N. C. The removal of mill is scheduled for completion in about two months. The local mill property has been sold.

Utica Knitting Co., Plant No. 2, Anniston, Ala., has plans for a modernization program that will entail installation of new machinery and equipment, including nine Supreme high-speed machines of from 56 to 64 feeds; two Universal Leesona winders; four Tube-Tex finishing machines; and stainless-steel bleaching and dyeing tubs.

Dyeing and Finishing Plants

Hampton Print Works, a division of Aspinook Corp., Easthampton, Mass., has been sold to D. B. Fuller & Co., Inc., New York. The plant, which was formerly a division of Hampton Co., bleaches, dyes, mercerizes, and prints cotton goods.

Reeves Bros., Inc., New York, has engaged Lockwood Greene Engineers, Inc., Spartanburg, S. C., to prepare plans for a proposed finishing mill at Bishopville, S. C., where a tract of land recently was acquired. The cost reported is about $2,000,000.

Sayles-Biltmore Bleacheries, Biltmore, N. C., has purchased a complete dyeing range and a continuous peroxide open-width bleaching range. Greenville Steel & Foundry Co., of Greenville, S. C., is supplying equipment, and installations are expected to be completed by this fall.

Union Dye & Finishing Works, Union, S. C., has completed a $17,000 expansion program that has doubled production. The mill is equipped to dye and finish up to 5,000 doz. pr. per week. Improvements include a new 50-hp. steam generator in dye house, modern machinery in boarding and pre-boarding rooms, and latest equipment in the finishing department.

Test Them in Your Mill

The Jackson Humidifier head is different. It will not drip. Air cannot back up in the water line. No special tools required for a trial installation—merely replace the old head with the new. Can be connected to any system with gravity water supply.

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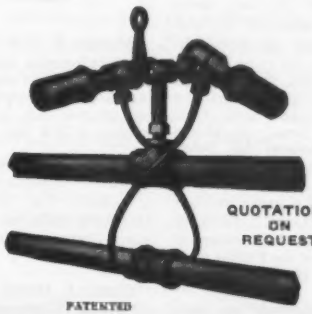

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NEWS ABOUT Men

F. Murray Acker, former manager of E. I. du Pont de Nemours & Co., Inc., rayon plant at Buffalo, N. Y., and more recently on special assignment in the rayon division at Wilmington, Del., has been named manager of the Du Pont Old Hickory rayon plant, Nashville, Tenn., succeeding **Earl E. Swenson.** Mr. Swenson has been transferred to the main office of the company in Wilmington as special assistant with the personnel department. Mr. Acker has been succeeded as manager of the Buffalo plant by **William H. Thalheimer.**

Arthur Almstedt has been named chairman of the board of Louisville Textiles, Inc., Louisville, Ky. Mr. Almstedt, an investment broker, succeeds **William S. Speed.**

W. L. Brightwell has been appointed superintendent of plant of Johnston Mfg. Co., Charlotte, N. C.

Glenn Bull has been appointed overseer of spinning at Abney Mills plant, Woodruff, S. C., succeeding **E. E. Peurifoy.**

Boyd Chapman, Jr., has become superintendent of Alden Spinning Co., Talcottville, Conn.

George Chumas has become overseer of dyeing at S. Stroock & Co., Inc., Newburg, N. Y., succeeding **S. Wilson.**

Madison F. Cole has been appointed general superintendent of Newman Cotton Mills, Newman, Ga. **Joseph H. Foster** succeeds him as superintendent of Mill No. 2.

Julien B. Cumming has resigned as superintendent at Schoolfield, Va., division of Dan River Mills, Inc., and has joined Dominion Textiles Ltd., Montreal, Que.

Charles E. Daniel, president of Daniel Construction Co., Greenville, S. C., has been elected a director of Utica & Mohawk Cotton Mills, Inc., Utica, N. Y., and Seneca, S. C.

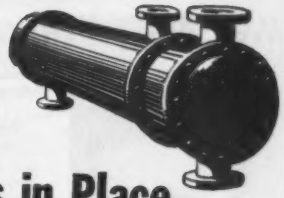
Lawrence M. Davidson has become overseer of corduroy dyeing at Merrimack Mills, Lowell, Mass.

Harold Duncan, former assistant to the manager of Milledgeville Mills of Southern division of J. P. Stevens & Co., Inc., Milledgeville, Ga., has been transferred to Rockingham, N. C., and has become manager of Hannah Picket Worsted Mills, also a unit of Stevens chain. **E. L. Head** has been transferred to Milledgeville from Stevens Mill at Dublin, Ga., to succeed Mr. Duncan.

M. Clifford Edwards has re-

MEMBERS OF THE STAFF of Alexander Smith Products Co., recently formed division of Alexander Smith & Sons Carpet Co., Yonkers, N. Y., are (left to right) DR. ERNEST WOLFF, manager of the Industrial Processes Division; GEORGE VALLENDER, manager of the Random Fibre Web Div.; FRANK H. HIGGINS, president; JOHN W. CLARKE, manager of the Special Products Div.; and JOHN RENWICK, administrative assistant to the president. PAUL GARST (not shown) is manager of the textile division.

Descale Your Heat Exchangers in Place



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A complete steam plant backed by undivided responsibility • Shipped completely assembled • More than 80% thermal efficiency guaranteed • 4-pass design provides 5 sq. ft. of heating surface per b.h.p. • Built-in induced draft eliminates need of expensive chimney • Simple installation • Clean, quiet operation • Heavy-duty construction assures long-lived dependability • 17 sizes from 20 to 500 b.h.p. for pressures up to 250 p.s.i. or for hot water heating.

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2 *This Dyebox is Stainless Steel*

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3 *This Dyebox is Blickman Built*

. . . to be as accessible as an open box with none of the disadvantages; . . . to give dyers every design feature for speedier loading, heating, lacing, unloading and changeover; . . . to assure trouble free operation for many years.

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ANCHOR LOOM PADS WITH Plasgon

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News About MEN (Continued)

LOWELL E. TJADEN has been appointed general sales manager of Dan River Mills, Inc., New York.

tired as a vice president and a director of J. P. Stevens & Co., Inc., New York. He has been associated with the company for past 28 years and was in charge of sales of woolen fabrics.

Joseph Etchells has returned to Manton Mills of American Woolen Co., Manton, R. I., as overseer of finishing.

Fred C. Frank, for 10 years manager of Phoenix Mills Div., Beaunit Mills, Inc., Statesville, N. C., and with company for 30 years, has retired. He will be succeeded by **H. Shelton Miller**. Mr. Miller had been dyehouse superintendent at Statesville since 1941.

Harvey Gaulke has become overseer of finishing for Rockford Textile Mills, Inc., Rockford, Ill., succeeding **H. Fligg**.

A. H. Goddard has become overseer of finishing for Robinson Mfg. Co., Oxford, Me.

George Guilmette, overseer of carding with Cowan plant of Cotswool Mfg. Co., Lewiston, Me., for nearly 50 years, has retired and has been succeeded by **Grant L. Bush**, former night overseer at Webster Mill of American Woolen Co.

Richard J. Hewitt has become overseer of weaving for Joseph Bancroft & Sons Co., Reading, Pa.

Richard R. Higgins has been elected president of the Kendall Co., Boston, Mass. Associated with the company since 1922, he had been serving as executive vice president and treasurer and will continue as treasurer.

Russell G. Hodges has been elected secretary of Wilkes Hosiery Mills Co., North Wilkesboro, N. C. For past several years, he had been assistant secretary and also had been in charge of hosiery and yarn dyeing. He joined the firm in 1923. Mr. Hodges succeeds **C. F. Adamson**, resigned.

Fred Hodgkinson has become plant manager for Cadillac Textiles, Inc., Valley Falls, R. I.

William H. King has resigned as superintendent of cotton weaving at Hathaway Mfg. Co., New Bedford, Mass. **Elsworth McOsker** has been put in charge of weaving as an addition to his duties as head of carding and spinning.

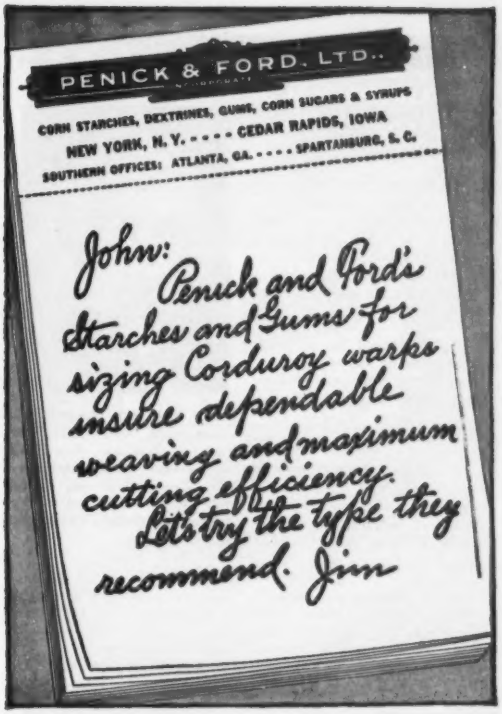
Joseph L. Lanier has been elected president of West Point Mfg. Co., West Point, Ga., succeeding **Gen Ralph G. Boyd**, resigned. **Joe L. Jennings**, formerly vice president of company, has been named executive vice president, succeeding Mr. Lanier. **John A. Sibley** and **William Wolbach** have been named to board of directors, succeeding **Charles O. Richardson** and **Elwyn G. Preston**, both resigned. **Frank P. Samford** was also named a director.

Russell L. Lawson has been named executive vice president of Utica Knitting Co., Utica, N. Y. He had been a buying executive with Sears Roebuck & Co.

Harold Le Duc is the new manager of Dominion Textile Co. Ltd., Magog, Que. **Ernest Sewell**, former head of the print works, has assumed duties as technical director of company and will act as consultant to other units of company group. **W. J. Pilton**, formerly Mr. Sewell's assistant, is now superintendent of print works, and **John Boardman** is new superintendent of company cotton mill.

Donald Letourneau has become night superintendent at Franklin Woolen Mills, Inc., Franklin, Mass.

Robert L. Mauldin has been appointed superintendent of rayon division of North Carolina Finishing Co., Salisbury,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NEWS ABOUT MEN (Continued)

N. C. For ten years, he had been general foreman of the rayon-dyeing department.

Charles H. McGill is the new assistant superintendent of Harden Mfg. Co., Rock Hill, S. C. Mr. McGill resigned as assistant superintendent of Monroe Cotton Mills, Monroe, Ga., to accept his new post.

F. M. Merrill has resigned as overseer of weaving at Sawyer Mills of American Woolen Co., Dover, N. H., and is now with Paragon Worsted Co., Providence, R. I.

J. Clifford Miller, Jr., of Richmond, Va., has replaced the late John H. Schoolfield on board of directors of P. H. Hanes Knitting Co., Winston-Salem, N. C.

O. G. Murphy, superintendent of Dennison Cotton Mill, Dennison, Tex., for past four years, has resigned to become manager of Postex Cotton Mills, Post, Tex.

Brandon M. Payne has become general superintendent of Cannon Mills Co. Plant No. 2, at Concord, N. C., as well as of plants Nos. 5, 9 and 10. He had been superintendent of No. 2 plant. **James Funderburk**, formerly assistant superintendent, has been promoted to superintendent of No. 2 mill.

Fred Rainville has become superintendent of rayon department of Chicopee Mfg. Co., Manchester, N. H., succeeding John Whewell.

Robert Rainville is now assistant finisher at Wanskuck Co., Providence, R. I. He was formerly with Coe Woolen Co., Worcester, Mass.

William Sandford has become agent of Dunn Worsted Mills, Woonsocket, R. I. **Howard Oldfield**, formerly overseer of finishing, has been made superintendent. **Arthur Binns**, overseer of weaving, has been put in charge of dressing, succeeding **Leo Gosselin**.

L. W. Schoelpple has been elected to newly created post of vice president at Sauquoit Silk Co., Scranton, Pa. He has been with company since 1948.

F. Harrison Sheely, former chief accountant for Winnsboro Mills, division of United States Rubber Co., at Winnsboro, S. C. has been appointed office manager to succeed **W. A. Singleterry**, who has been made general control manager of the company textile division.

***PHILIP HARTNETT** has been appointed sales representative for Chicopee Mills, Inc., New York. Mr. Hartnett will represent company General Line Div. in the Mid-Western states and will be located in company Chicago, Ill., office.*

J. L. Smith has been elected to board of directors of Southern Webbing Mills, Greensboro, N. C. Mr. Smith is vice president of Barnhardt Bros. Elastic Corp., Charlotte, N. C.

William T. Stearn has been appointed superintendent of the textile section of Celanese Colombiana S. A., subsidiary of Celanese Corp. of America, New York. Celanese Colombiana is now erecting an acetate-filament-yarn plant near Cali, Colombia. Mr. Stern has been associated with the Cumberland, Md., plant of firm since 1930.

Joseph H. Sutherland, vice president of J. P. Stevens & Co., Inc., New York, has been elected a member of board of directors of Marion Mfg. Co., Marion, N. C.

William D. Sykes of William D. Sykes & Co., Philadelphia, Pa., has resigned as president of the firm but will continue as a director.

E. L. Thomas has been named vice president in charge of production of Vanta Corp., Boston, Mass.

L. Nelson Thompson has been named vice president of

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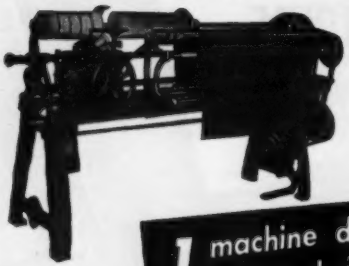

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NEWS ABOUT MEN (Continued)

Verney Corp. of Canada Ltd., Granby, Que. Mr. Thompson, who has been general manager of the company since 1949, will also continue in that capacity.

Knute Thorsen, Jr., has resigned as manager of Los Angeles division of Pendleton Woolen Mills. Company has decided to consolidate Los Angeles and Omaha divisions and locate office in Omaha.

Lionel Thurlow has been named Ontario district sales manager of nylon division of Canadian Industries Ltd., with his head office in Montreal. He succeeds **Ivan Vessie**, who has been transferred to firm's head office. Mr. Thurlow joined company in 1944 as foreman in the process-control laboratory at Kingston, Ont., nylon plant.

Charles Tiberghien has terminated his association with three textile firms, St. Johns Textile Mills Ltd., Demetre Sault (Canada), and Franco-Canadian Dyers Ltd., all of Quebec, with which he has been associated as president and general manager for past 15 years.

B. W. Twitty has been elected president and treasurer of Marion Mfg. Co., Marion, N. C. Other officers were re-elected.

George A. Urlaub has joined Lee Dye Works, Inc., Philadelphia, Pa., in a technical sales-service capacity. A member of the Textile Research Institute, the Textile Institute (of England), the AATCC, and former treasurer of the AATT, he has for the past three years, as a textile consultant, conducted a hosiery course sponsored by the New York Assn. of Hosiery Mill Salesmen.

William C. von Broock, who has been assistant secretary and treasurer of Nolde & Horst Co., Inc., Reading, Pa. since 1932, and with firm for 42 years, has left the company.

Fred Walker has been appointed industry analyst in Textile Div., National Production Authority, Washington, D. C. Mr. Walker was formerly division manager of Wamsutta Mills, Atlanta, Ga.

Frank A. Walsh is new superintendent of Jonesville Mills, Jonesville, S. C. Mr. Walsh, former general overseer of weaving at Piedmont Mfg. Co., Mill No. 2, Piedmont, S. C., succeeds **E. Douglas Patton**, who was transferred to administrative offices of Dunean Mills group, J. P. Stevens & Co.

G. H. Williams is now superintendent at A. Schottland, Inc., Rocky Mount, N. C. He was formerly overseer of weaving at Dover Mill, Shelby, N. C. **C. Hall** is now overseer at throwing at Schottland mill. He formerly held a similar position at Textron Southern, Inc., Hartwell, Ga.

Samuel F. Winsper, Jr., has been appointed assistant to manager of Dan River Mills, Inc., Danville, Va. Mr. Winsper was formerly assistant designer at Soule Mill, New Bedford, Mass. He was later superintendent of Seminole Mills, Clearwater, S. C., and was most recently manager of two spinning and weaving plants in Venezuela owned by United Merchants & Manufacturers.

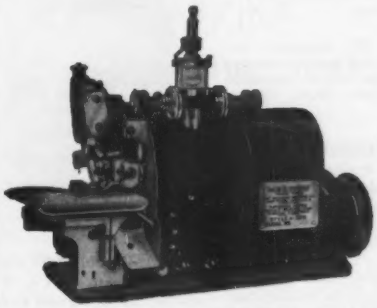
Wililam E. Wolfe has been appointed first vice president, general manager, and a member of the board of directors of Scottsboro Knitting Mills, Scottsboro, Ala.

Edward Young has become superintendent of weaving at Verney Corp., Brunswick, Me., succeeding **Charles Titmas**, resigned. Mr. Young was formerly overseer of weaving at Almardon Mills, Lonsdale, R. I.

OBITUARY

Louis Cannel, 75, founder and president of Novelty Shawl Co., Paterson, N. J., died recently of a heart attack while in Florida.

Charles E. Cram, 79, former president of James H. Billington Co., Philadelphia, Pa., bobbin and shuttle manufacturers, died recently. He had been



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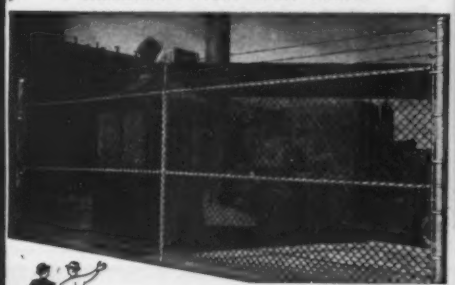

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in the textile industry for 50 years before his retirement several years ago.

Hugh W. Crawford, 66, president and general manager of Stevens Linen Associates, Inc., Webster, Mass., died recently.

James Hulton, 86, retired president and a founder of W. E. Hulton Dyeing Co., Philadelphia, Pa., died recently.

Percy F. Merritt, 92, president of Mary-Leila Cotton Mills, Greensboro, Ga., died recently. He joined the company in 1903 and served as vice president and treasurer for 35 years before his election as president in 1946.

Louis Pfeffer, 68, president of Salta Knitting Mills, New York, died recently.

Robert W. Rems, 68, senior partner in John Rems & Sons, Macungie, Pa., died recently.

David M. Titelman, 53, retired president of Puritan Knitting Mills, Inc., Altoona, Pa., died recently.

Albert A. Vaslet, 66, president of Vasco Narrow Fabric Co., Pawtucket, R. I., died recently.

Gordon H. Wood, 61, retired vice president and a director of Felters Co., Boston, Mass., died recently. Before his retirement in 1947, he spent his entire business career with the company, first at the Johnson City, N. Y., plant and later as agent of the Millbury, Mass., plant.

Paul J. Bell, 53, engineer at Laurens Mills, Laurens, S. C., died recently.

Robert G. Childs, 32, general manager of William Gorse Co., Needham Heights, Mass., died recently.

Chester A. Dill, treasurer and a director of Utica Mohawk Cotton Mills, Inc., Utica, N. Y., died recently. He joined the company in 1933.

Edwin J. Last, 54, industrial-relations director for 15 years at Linen Thread Co., Paterson, N. J., died recently.

Edwin Marble II, secretary of Curtis & Marble Machine Co., Worcester, Mass., died recently. He entered the company, of which his grandfather was one of the founders, in 1920 as a clerk.

TROWBRIDGE MARSTON, chairman of Kaumagraph Co., Wilmington, Del., died recently. Mr. Marston, who joined the company in 1909, was instrumental in the development of many dry-transfer improvements and processes. He became president of the company in 1927.

Harold C. Meegan, sales manager for Textile Specialties Div., Nopco Chemical Co., Harrison, N. J., died recently. He joined the organization in 1922 and held the post of sales manager for over ten years prior to his death.

J. Sime Mercer, 71, formerly an agent of Arlington Mills, Lawrence, Mass., died recently. At the time of his death he was active in an advisory and consulting capacity with William Whitman Co., Lawrence.

John J. Phoenix, 83, former official of Cone Mills, Greensboro, N. C., died recently.

Robert W. Sullivan, assistant secretary of Orr Mill, Anderson, S. C., died recently.

Harvey F. Carper, 59, retired night superintendent of Virginia Woolen Co., Winchester, Va., died recently.

Mark E. Garrison, 75, retired superintendent at Glenwood Mills, Easley, S. C., died recently. He had held the position of superintendent for 43 years before his retirement in 1948.

Reuben W. Sterling, 71, retired superintendent at Kilburn Mill, New Bedford, Mass., died recently.

Samuel A. Ogley, 70, overseer since 1912 at Steere Mill of Wanskuck Co., Providence, R. I., died recently.

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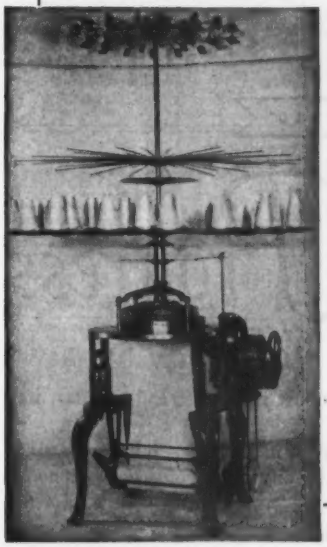

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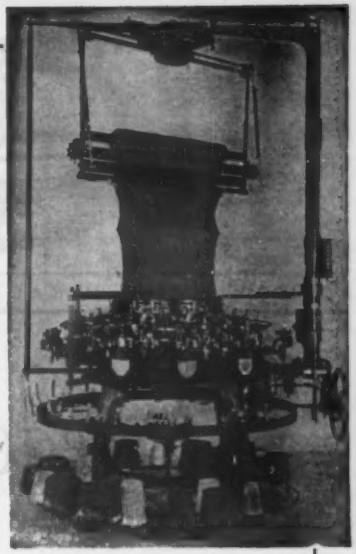

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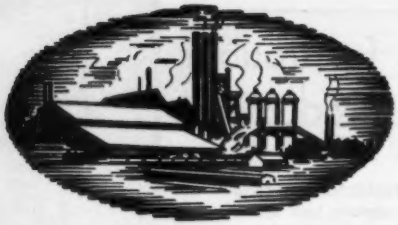

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NEW ADVERTISEMENTS received by May 18th, at the New York Office, 330 W. 42nd St., N. Y. 18, will appear in the June issue subject to limitation of space available.

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (18)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS WANTED

THROWSTER RAYON, silk and nylon—wide experience in all phases of throwing—rayon and silk crepes—hosiery yarn and all types of rayon twists—desires position as production supt. Employed, Ref. PW-9370, Textile World.

FOREMAN OR supervisor of knitting mill, age 40, have had 20 years experience on practically all kinds of circular knitting machines. Prefer South, can take complete charge of circular knitting plant, either underwear or hosiery. PW-9221, Textile World.

PATENTS

CONSULT: Z. B. POLACHEK,
Reg. Patent Attorney. 1234 Broadway, New York 1, N. Y.

WANTED

ANYTHING within reason that is wanted in the field served by Textile World can be quickly located through bringing it to the attention of thousands of men whose interest is assured because this is the business paper they read.

A HIGHLY QUALIFIED MILLMAN

now in charge of rayon mill wants new affiliation. Text. school graduate. 20 yrs. exp. rayon, nylon, silk, cotton, on Jacq. & shaftlooms. High effic.—low cost operator. Proven records. 1A reference. Excel. labor relations. Position wanted: Supt. or Pred. manager with reliable firm only.

PW-9567, Textile World
330 W. 42 St., New York 18, N. Y.

WANTED

Large engineering firm wishes to acquire several complete textile plants through purchase of (1) capital stock, (2) assets, (3) machinery and equipment, whole or in part. Personnel retained where possible, strictest confidence.

Box 1223
1474 Broadway New York 18, N. Y.

WANTED

Tricot Mill with warping equipment.

Small or medium size, near New York City

BO-9586, Textile World
330 W. 42 St., New York 18, N. Y.

CORDAGE MILL FOR SALE

Small, complete unit for manufacturing clothes lines, venetian blind cords and mops.

2—16 carrier Wardwell Braiders
1—Glazing machine (18 mos. old)
2—#50 Universal Winders
1—#7 Universal Winder
3—Stenking machines
2—Double needle sewing machines
1—Union Special band machine
2—Circular cutters

Mill in full production. Must sell. Best offer. For details and inspection, write

BO-9284, Textile World
330 W. 42nd St., New York 18, N. Y.

SALESMAN OR SALES REPRESENTATIVE

To Sell Loom Supplies, Heddles, Reeds, Etc.

on

Eastern Seaboard

For

Old established Philadelphia Mfgr.

Must be aggressive, thoroughly experienced and capable of supervision. Unlimited opportunity for the right man.

State qualifications, particulars, including COMPLETE list of previous employers—Salary requirements.

Enclose recent photograph. All replies will be held in strict confidence.

Box 9509 Phila., Pa.

WANTED

TEXTILE TECHNICIAN

For factory near New York City

Write stating experience and salary expected.

P-9423, Textile World
330 W. 42nd St., New York 18, N. Y.

WE ARE IN NEED OF A MAN

to assume charge of a lace curtain finishing plant. We will consider a man only with experience with laces.

P-9511, Textile World
330 W. 42 St., New York 18, N. Y.

SELLING OPPORTUNITY

New England firm manufacturing Bobbin Cleaning Machinery and accessories, desires Southern individual as representative for sales, and service on present installations. Must have excellent connections in cotton industry, with ability to properly install and service precision machinery. Reply to

RW-9518, Textile World
330 W. 42 St., New York 18, N. Y.

MEN WANTED

POSITIONS OPEN

We can place: MANAGER silk throwing plant; employment mgr.; woolen yarn mill supts.; cotton yarn and cloth mill supts. for South and foreign countries; woolen-worsted cloth mill mgrs. and supts.; mgr. silk weaving plant; supt. worsted yarn and worsted weaving plant combined; asst. supt. weaving, carding and French combing; supt. jacq. fab. mill; knit. supt. (sweaters), salary $8,000-$10,000; supt. mill making heavy cotton duck; dye house supt. rayons and acetates; production mgr. braided cord mill; asst. supt. cot. mills, one especially strong in card. and spin. designer fine fancy worsteds.

OVERSEERS FOR FOLLOWING DEPTS.: Cot. piece goods bleach.; finishing rayon-cot. piece goods; garnetting picking; rayon slashing; dyeing all silk and rayon mixed fabrics; full fash. hos. dyeing; hosiery dyeing, wet fin. and boarding; worsted draining; woolen frame spin.; woolen and worsted carding; knit. Crane machines; ribbon finishing.

SECOND HANDS FOR FOLLOWING DEPTS.: Woolen dyeing; rayon and cotton weaving; worsted finishing.

MASTER MECHANICS, plant engineers, asst. plant engineers, mechanical and electrical engineers, designers and draftsmen, salary range $4,000-$10,000; chief power plant engineer; industrial, time study and production engineers.

CHEMISTS, chem. engineers and laboratory men, salary range $3800-$7500 year: tex. sch. instructor; expert rayon loom fixer for service work; salesmen for dyestuffs, chemicals, wool, waste, machinery, etc.; expert warp tying mach. operator for service work; designer, stylist and pattern maker knit, and woven fabrics; woolen card fixer; worsted French cards and French combs; loom fixers; fixer girdle knit. mach.; jac. card cutter; garnett fixer $100 wk.; assistant employment mgr.; sew. mach. fixers; finished purchsrs; Harber Colman operators; hosiery, underwear and sweater knit. mach. fixers.

LIST YOUR CONFIDENTIAL APPLICATION WITH US to keep informed of attractive positions open in the textile mills.

CHARLES P. RAYMOND SERVICE, Inc.
294 Washington St. Boston, Mass.
Telephone Liberty 2-6547

SPECIALISTS IN PLACING TEXTILE MILL EXECUTIVES

MANAGER WANTED
for a Velvet Weaving Mill

Must be experienced on Pile Fabric materials. Call or write to

VELVET TEXTILE CORPORATION
18 Gilbert Street West Haven, Conn.
Phone number West 3-2321

DYER WANTED

New modern plant in North Carolina has opening for a dyer with experience on Viscose and Acetate piece goods. State age, education, experience and salary desired.

P-9237, Textile World
330 W. 42nd St., New York 18, N. Y.

MANAGER-SUPERINTENDENT

FOR COTTON MILL IN ATHENS, GREECE

To improve efficiency and increase workloads. Excellent pay and terms offered.

P-9533, Textile World
330 W. 42 St., New York 18, N. Y.

AT AUCTION

In Complete Liquidation

MACHINERY

Equipment and Supplies of

WESTMORELAND WORSTED CO.

3rd and Westmoreland Sts., Philadelphia

TUESDAY, MAY 8, 1951 AT 11 A. M.

Daylight Time on the Premises

2 Well Balanced Sets of Drawing with Intersecting Gill Boxes for the Spinning of Fine and Medium Fine Worsted Yarns.

1ST SET. 5 Intersecting Gill Boxes with Creels; 10 Draw Boxes 4- and 6-Spindle with Courtney Jensen B. B. 6 Prince Smith 8x4 Cone; 2—60 Spindle 10x5 Cone Machines, Courtney Jensen B. B. Rolls. Bethlehem Centrifugal Clutch; 12 Prince Smith Roving Frames. *Most of the Cone Rovers have new Flyers (Oldham).*

2ND SET. 5 Intersecting Gill Boxes, C-J. B. B. 9 Draw Boxes 4-6- and 10-Spl. 14x9—11x6—12x6 C-J. B. B. Rolls, P. S. Cone 10x5 and 10 Saco Lowell and Prince Smith 80 Spindle 8x4 Cone. Beth. Cent. Clutch, all motor driven.

SPINNING 25 P. S. 180 Spl. Frames, indiv. Arrag Oilers, B. B. Roll M. D. Link Belt Drive; 2 P. S. 160 Spl. Frames, indiv. Arrag Oilers, C. J. B. B.; 9 P. S. 160 Spl. Frames, Trap Motion, M. D. Link Belt; 6 H & S Twisters. 180 Spl. M. D. 4 Foster Cone Winders; 7 Warp Compressor Multiple Spoolers, new rolls with creels.

Extensive selection of spare parts, Motors, Shafting, Belting, Bobbins, Spools, Trucks, Scales, Cans, Electrical Equipment and Supplies. 2—150 KVA Transformers, 250 Two Tube Fluorescent Lights, excellent condition with individual wires and plugs.

Descriptive Illustrated Catalogue Upon Application to

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50 CHURCH STREET, NEW YORK 7, N. Y. — 1808-10 CHESTNUT STREET, PHILADELPHIA 3, PA. — 80 FEDERAL STREET, BOSTON 10, MASS.

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EATON & BELL

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Engineers • Constructors

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LANCASTER, ALLWINE & ROMMEL

Registered Patent Attorneys

Patent Practice before U. S. Patent Office, Validity and Infringement Investigations and Opinions. Booklet and form "Evidence of Conception" forwarded upon request.

Suite 448, 815 15th St., N. W., Washington 5, D. C.

McKOY-HELGERSON CO.

Industrial Construction

Greenville, South Carolina

KAMINER-HELGERSON CO.

Industrial Piping

Greenville, South Carolina

SMALL MANUFACTURES

Nebraska town 1400 population on CB&Q would like to contact manufacturer seeking location. Can make concessions on light, power, water, heat and building. In center of new irrigation district. Principals only. Your reply will bring any wanted information.

M-9360, Textile World
520 N. Michigan Ave., Chicago 11, Ill.

DYE SPRINGS

MANUFACTURED IN ALL THE METALS

EXPERTLY RE-WOUND AT A REAL SAVING

SOLD IN GOOD USED CONDITION

WALTER S. GATES

LAKE ORION, MICH.

NYLON . . .

Buying and selling NYLON WASTE and cuttings—all Types

GOLDMAN TRADING CO.

308 West Washington St., Chicago 6, Illinois — Tel. Franklin 2-8451

WANTED

(Additional Wanted Advertising on page 298)

BOUGHT — SOLD

Glycols—Cellosolves—Ethanolamines
Phthalic—Maleic—Penta
Titaniums—Bichromates—Dyes—Colors
Soda Ash—Caustic Soda, etc.

CHEMICAL SERVICE CORP.
80-10 Beaver St. New York 5, N. Y.

DYESTUFFS

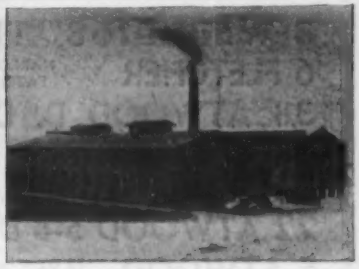
Will buy your surplus and obsolete dyes and chemicals for cash.

NEW ENGLAND PRODUCTS CO.
91 Oliver St. Boston, Mass.
Established 1919

Executive Offices and New York Warehouse

McDOWELL ASSOCIATES INC.

FOR SALE



Hudson, New York Warehouse

PARTIAL LIST---IMMEDIATE DELIVERY

WAREHOUSE STOCK

4 BATCHERS single drum 44"-48"-66"-80".
300 M automatic BOBBINS 3 ring 8¾".
1 TAPE CONDENSER 112 end 48".
1 MAGAZINE CREEL 1000 live ends plus reserve.
1 P&W Springfield combination DOUBLING & FULL WIDTH ROLLING 66".
1 P&W Model E DOUBLING AND MEASURING MACHINE 72".
1 Reeves #3 enclosed DRIVE.
1 EXTRACTOR 72" copper basket, safety cover, vertical side motor, underneath B-belt drive.
1 Harwood PICKER FEED 44".
3 Bahnson HUMIDIFIERS 16" impeller, regulator and motor.
2 C&M INSPECTING MACHINES 64" rolling up heads.
6 C&K automatic LOOMS 4x1, 92" 25 harness, mtrzd.
1 MANGLE 2 roll 50" screw pressure.
1 P&W MEASURING MACHINE 66" clock, mtrzd.
1 Glen MIXER 2 bowls 120 qt. capacity each, 3 agitators.
1 Gessner NAPPER 18 roll D.A. 80" mtrzd.
2 D&F NAPPERS 24 roll D.A. 80" double belt drive.
1 Woonsocket B.B. NAPPER 24 roll 66" mtrzd.
1 D&F NAPPER 24 roll 66" double belt drive.
2 P&W PERCHES 50"-60" with clocks.
2 Werner POWER PERCHES 93½" tilting tables for mending, forward & reverse.
2 Burr PICKERS 24"-36" with blowers.
1 D&F MIXING PICKER 40" 6 bar.
1 D&F iron FEARNAUGHT PICKER 48x48.
1 C&M FEARNAUGHT PICKER 48x48 with feeder.
1 Dodge WASTE PICKER 20x30 metallic wire on cyl.
1 Gessner STEAM PRESS High Production Model 66".
1 Veelker STEAM PRESS 80".
1 Nash PUMP L-4.
1 QUETCH 2 roll 65½", S.S. dry can overhead.
1 REEL for loading and unloading Extractor 20" face width.
9 Rotary foot power SEWING MACHINES.
4 Dinsmore railway portable SEWING MACHINES 52"-56"-60".
1 P&W B.B. SHEAR 4 blade, auto. 80" cut.
2 P&W SHEARS 66½" list savers.
2 P&W SHEARS Model A 66½".
1 C&M SHEARING, STEAMING & BRUSHING MACHINE 66½" 4 sets cutting parts.
8 Whitin wool SPINNING FRAMES 100 spdls. each, 4" gauge, mtrzd.

WAREHOUSE STOCK, Con't.

1 C&M TACKING MACHINE 92" Singer sewing head.
1 D&F TWISTER 200 spdls., one side novelty, 2½" ring.
1 Entwistle Hi-speed WARPER 54", expanding type comb. 8 section beams.
2 D&F WARPERS 82" compressor, beamer, etc.
2 C&M cloth WINDERS 50"-60" with clocks.
20 Universal #80 WINDERS accommodate 8¾" auto. bobbin, mtrzd.
1 C&C bottle WINDER 40 spdls. Quantity wood bottles available.

DYEING & FINISHING

1 Perkins new hydraulic friction CALENDER 42".
1 Textile CALENDER 2 roll, 82" Reeve and motor.
1 Van Vlan. embossing CALENDER 54" #2 Tree Bark pattern.
1 Yorkshire CRABB 2 bowl 72" S.S. bowls.
1 SEMI-DECATUR 72x12 cyl. pump, blanket, motor.
1 SET 8 copper DRY CANS 72" x 36" dia.
1 P&S LOOP DRYER, revolving stick, 84", housing, fans, etc.
1 Hunter DRYER RAW STOCK 4 section, agitator apron, 72".
1 DYE KETTLE 6 string S.S. lined.
1 Obermaier PACKAGE DYEING MACHINE 22 spdl., pump, motor, etc.
1 K&W skein DYEING MACHINE 28 stick, S.S. lined tub.
2 FULLING MILLS double compartment, wood boxes, porcelain pot eyes.
1 JIGG 2 roll 50" S.S. lined.
1 S.D. Skein MERCERIBING UNIT 24 pole 54" skeins.
1 Woonsocket NAPPER 20 roll 100".
1 Gessner NAPPER 1946 Model 24 roll D.A. 80".
1 Gessner knit goods NAPPER 1942 Model, 20 roll, 80".
1 Werner new PADDER 3 roll 70".
1 Van Vlan. PALMER TENTER QUETCH UNIT tenter 40' long.
1 Waldron PRINT MACHINE 6 color 33" complete.
1 Textile PRINT MACHINE 2 color 45" with 12-50" dry cans.
1 R.B.F. PRINT MACHINE 3 color 60" back rigging and dry tower.
1 Arlington SCUTCHER 72" beaters, scroll rolls, etc.
1 C&M CARPET SHEAR cross cut 18'-20' carpets.
1 C&M CARPET SHEAR 9' extra cutting parts.
1 Johnson 5 cam SLASHER 60", size box, creel, etc.

DYEING & FINISHING, Con't.

1 SLASHER 2 cylinder 7' & 5' dias. 60' accommodate beam up to 90".
1 Hot air SLASHER air fin rolls, size boxes, accommodate 92" beam.
1 Birch STRETCHING & ROLLING UNIT 72" spray pipe attachment.
1 TENTER FRAME, clip 97" long x 85" width.
1 Morrison TENTER FRAME 30' long x 64" width.
1 Butterworth PIN TENTER DRYER 50' long x 72" width, insulated housing with 12-80" heated cyls.
1 Textile PIN TENTER DRYER 70' long x 148" width, housing, Infra Red burners, motors, guiders, controls, etc.
1 WASHER open width 2 compartments, 66", squeeze rolls, vacuum slot, folder, etc.
1 WASHER open width 4 compartment, 72", squeeze rolls, vacuum slot, folder, etc.

CARDING & SPINNING

30 ASA LEE 40" COTTON CARDS, 27" doffers, 12" collars.
1 D&F 3 cylinder IRON WOOL CARD 60x60, 120 end tape condenser.
1 D&F 3 cylinder IRON WOOL CARD 52x60, peralta, 120 end double rubb tape condenser, mtrzd.
1 Smith & Furbish 3 cylinder IRON CARD 60x60, peralta, 120 end tape condenser.
3 D&F 3 cyl. IRON WOOL CARDS 48" wide x 60" dia., 88 end tape condensers.
2 D&F 3 cyl. IRON WOOL CARDS 48" wide x 60" dia., D&F 100 end tape condensers.
9 D&F large package MULES 1946 Model 300 spdls. each, 2½" gauge.
2 Whitin Model E WOOL SPINNING FRAMES 1941 Model 120 spdls. each, 5" ring, 6½" gauge.
20 C&K LOOMS auto., 4x1 box, 78", 12 harness, 10½" bobbin rebuilt 1947, mtrzd.
16 C&K LOOMS 82", 25 harness, rebuilt 1950.
20 C&K LOOMS 4x4 box 92", 25 harness, belt driven.
1 Collins fancy TWISTER 1925 Model, 120 spdls., 4½" ring, 6" gauge, double motor drive.

EXCLUSIVE SALES AGENTS
for
HOLTZ "High Speed" Knitting LOOMS

EXPORT SALES AGENTS
for
WERNER MACHINE COMPANY
D. R. KENYON & SON

McDOWELL ASSOCIATES, Inc.
2568 Park Avenue Bronx 51, New York
Tel.: MElrose 5-6741

8 Whitin 168" TRICOT MACHINES LIKE NEW CONDITION . . . . . .

6 FLETCHER NARROW FABRIC **15'8" LOOMS** 1903 MODEL MOTORIZED

38 ATWOOD D. Deck Standard TWISTERS—Motorized

Individually motorized, 3 phase, 220 volts, 60 cycles. Machines 4¼" spindle spacing—Machines 192, 228, 288 spindles each. All in excellent operating condition.

12 U.S. TEXTILE D. DECK 2 MOTORS **TWISTERS** 212 SPINDLES EACH

Acme Type, 1925 model, 4¼" spindle spacing machines in top notch condition.

22 ATWOOD 5-B DOUBLERS MOTORIZED 80 & 100 SPINDLE **4" & 5"** SPINDLE SPACING

5 ATWOOD 12 OZ. PACKAGE **5-B DOUBLERS-6" GAUGE—** MOTORIZED 84 SPINDLES EACH

65 UNIVERSAL #50 CONERS GEAR & BELT GAINER MOTORIZED EXCELLENT CONDITION

10 FLETCHER & SCRANTON **REELING MACHINES-8 FLY—** 44" SKEINS MOTORIZED

2 300 END HIGH SPEED **HONYCOMB CREELS** FOR OVEREND **SPOOLS**

26 C & K GEM HEAD **4 x 4 LOOMS**
16—72" wide 10—56" wide
Motorized
Heavy Duty Roller Bearing Looms, Elec. Feeler & Warp Stop Motions, in Excellent Condition—Looms Equip. with Beams.

2 JOHNSON SLASHERS
7 CANS—54"
Complete with
BROWN INSTRUMENT PANELS

3 STEAM BOXES
2 LYDON ALL ELECTRIC
1 H & W EL. & STEAM

PHONE 3-7197

Wm. Rabinowitz & Sons

214-222 HAMILTON STREET · ALLENTOWN, PA.

PHONE 3-7498

PREPARATORY

2—40" Pit Feeds
1—Sargent 42" Picker Feed
2—Sargent 92" Raw Stock Dryers
1—Hunter 7 section Raw Stock Dryer
1—D. & F. 7' all iron Cone Duster
2—Schofield 48" automatic Duster (box)
1—Woonsocket 36" x 36" ceiling condenser & blower
1—P. & S. 36" Ceiling Condenser
1—D. & F. 48" Fearnaught Mixing Picker
1—D. & F. 40" Mixing Picker, 6 bar
3—Dodge, Schofield 18" x 30" Shoddy Pickers
1—Sargent 36" Duplex Burr Picker
1—Schofield 48" Carding Hair Picker
1—Set (2 Cyl.) D. & F. Cards 48 x 60
4—P. & S. 2 Cyl. Garnetts, 20 x 60
2—Tolhurst 48" S/S Extractors (New)
1—Small Combing Plant, Worsted (2 cards, 2 combs, etc)
2—Sets Bradford Spinning, Drawing, & Roving

WARPING AND WEAVING

4—D. & F. or Altemus Warpers—rebuilt to order—92"—120", Pin or Pinless
1—Entwistle Hi Speed 54" Beamer & Creel
1—Globe Ball Warper & Creels
2—Altemus Long Chain Beamers
4—C. & K. 92" 4x1 automatic Looms
4—C. & K. 82" 4x1 automatic Looms
12—C. & K. 82" (4x4) Box Looms
2—L. & G. Chenille Cutters

WINDING

UNIVERSAL #50 & #90 WINDERS REBUILT TO ORDER
1—Universal 80 G.F. 80 sp. Cone Winder
1—Foster, Mod. 101, 100 sp. Cone Winder
1—Foster Mod. 12, Skein to cone Winder, 60 sp.
2—J. & B. Jackwinders, 80 sp. & 120 sp.
10—Lindsay-Hyde Adjustable Skein Reels
2—Whitin Quillers 2½" Gauge (long chain)
1—Lassaby 15 sp. Cop Winder

FINISHING

1—Perkins Cloth Filer, 72" traverse
1—Paper Makers Felt Cleg, 178"
1—Hunter No. 10 Fulling Mill
1—Gessner Steaming Machine (Cloth)
2—Birch Bros. Doub. & Tacking Mach.
1—Woonsocket 84" D. A. Napper, 36 rolls
1—Roy 80" Napper Grinder
1—P. & W. 86" 4 cyl. Brush & Sander
2—Textile Gig's, double cylinder
2—Rope Soaping Machines (lead lined)
1—Yorkshire Crab 72"—3 bowl
1—S/S Lined 66" Wetting-out Tank with squeeze rolls
1—Set Dry Cans (12) 60"
1—Set Dry Cans (4) 40"
1—P. & W. Lancashire 92" Cloth Boarding Machine
1—Windle 66" Cloth Doubler & Meas. Mach.
2—P. & W. 86" Cloth Doub. & Meas. Mach.
1—Windle 66" Cloth Roll. & Meas. Mach.

FRANK W. WHEELER CO.

1837 E. Ruan St. Philadelphia 24, Pa.

Phones: Jefferson 5-4771-4772

Reputable Dealers for over a quarter of a century

WE BOUGHT IT
YOU CAN OWN IT
FOR SALE

1 Set of Rings for 20" x 60" Dofters, 48—17/2"; 48—5/8"; 2 Waste, 2"
3 Card Grinders, 12" wheel, 48" Card
2 Card Grinders 9" & 14" wheel, 80" Card
564 spindles of complete ring rover changeovers, 3½" gauge, 4" ring, 7" bobbin. Including boxes, holsters, rings, separators, metal thread boards, spindle rails, spindles and ring rails.
50—Fibre metal clad box trucks
113 lbs. of 9/16" #7 Greased Mule Rope
32M spindle Bradford Spinning Plant

J. J. McCaffrey & Son, Inc.

P.O.BOX 495, Established 1920 Tel. 3-1314 PAWTUCKET, R.I.

IF THERE IS
Anything you want
that other readers of this paper can supply

OR—

Something you *don't want*
that other readers can use, advertise it in the

Searchlight Section

FOR SALE
Vacuum Cloth Extractor
One Gessner 66" L.H. vacuum cloth extractor complete with pump and motor—excellent condition—immediate delivery.

ROCK RIVER WOOLEN MILLS
Janesville, Wisconsin

For Sale

6—4 x 1 automatic C & K shaft looms.

FS-9584, Textile World
330 W. 42 St., New York 18, N. Y.

CRESCENT OFFERS OUTSTANDING VALUES

MACHINERY EQUIPMENT & SUPPLIES

of the former

SPRINGDALE FINISHING CO.

CANTON, MASS.

2½ Miles from Stoughton—10 Miles South of Boston—Route #138.
38 Miles North of Providence—Route U. S. #1 to Walpole to Stoughton.

To Be Sold In Lots As Described Herein

1—50" Continuous Vat Dyeing Machine, DuPont system, with 1—3 roll Padder, 1—3 roll Chemic Padder, 1—Steam Box, 1—8 Box Open Soaper, 4—S.S. Dye Tanks. Entire Unit Stainless Steel and *Stainless Steel Clad*—Built in 1945.

1—*72" Mercerizing Range*, 1—80" 3 roll Padder with Foxwell Air Guiders, 1—*60' Butterworth Tenter Frame S.S. inserts*, 1—72" 6 Box Open Soaper, Swing Folder, Tanks, Mixing Kettle, Pump, and Drive.

TENTERS

1—**80 ft. Butterworth Swing Tenter Frame**, opens to 72", with 6 Infra-red burners, 1—60" 2 roll padder, 1—60" 7 can dryer.

1—**40 ft. Butterworth Straightaway Tenter Frame**, opens to 50".

1—**30 ft. Winsor & Jerauld Straightaway Tenter Frame**, opens to 72".

SWING FOLDERS

7—Swing Folders, 106", 64", 54", 50", and 42" widths.

FLAT FOLDERS & BATCHERS

7—Batchers, single roll, 138", 80", 68", 56", 54", 52" and 48".

4—44" Elliott & Hall Flat Folders.

MISCELLANEOUS EQUIPMENT

3—**Logeman Bros. Hydraulic Cloth Baling Presses**, upstroke, all steel, with oil hydraulic pump.

1—**Lightnin Heavy Duty Mixer**, with explosion proof motor.

1—**Parks & Woolson 48" Kaumagraph Machine.**

1—**J. E. Windle 66" Doubling and Boarding Machine, type 3-C.**

1—**Pan Tex Press**, L-42S-OP-LHD, No. 31276-S.

1—Najort Washer, size 24 x 26, motor driven.

2—Ingersoll-Rand Air Compressors, Class ER1, No. 21612, 12 x 6.

1—Gardner Duplex Air Compressor 14 x D21, suction 8 x D26, size 6 x 6 with 7-½ H.P. motor and air receiver 36" x 66".

1—Stevens Anderson Portable Coal Loader, 18" W. x 30" L., motor driven.

SULPHUR DYE UNIT

1—**30" Continuous Sulphur Dye Machine**, with 3 roll padder, and a 6 box Open Soaper.

OPEN SOAPERS OR WASHERS

1—**50" 10 box Open Soaper, stainless steel clad steel box.**

1—**50" 9 box Open Soaper, stainless steel clad steel box.**

1—**50" 9 box Open Soaper, 1 steel box, and 1 wood box.**

1—50" 8 box Open Soaper, steel boxes.

1—50" 7 box Open Soaper, 2 steel and 1 wood boxes.

SOUR MACHINES

2—50" Sour Machines, 1—9 box, 1—6 box.

PADDERS & MANGLES

2—80" 2 roll Padders, rubber rolls.

1—66" 2 roll Padder, rubber rolls.

4—50" 2 roll Padders, rubber top roll, brass bottom roll.

1—50" 3 roll Padder, 2 rubber and 1 brass rolls.

2—42-½" double 3 roll Padders, rubber rolls.

2—50" 3 roll Mangles, 2 rubber, 1 copper, lead lined box.

1—50" 3 roll Mangle, rubber rolls.

JIGGS

17—Dye Jiggs, stainless steel immersion rolls.
1—80" stainless steel.
3—72" stainless steel.
2—50" stainless steel.
6—42" stainless steel lined.

DRY CAN SETS

10—Sets Can Dryers, vertical stacks with swing folders, widths are 120", 110", 84", 80", 50" and 42", with steel cans of 42, 39, 37, 35, 31, 30, 29, 28, and 26 per set.

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Pipe Shop	Tanks	Hand Trucks	Chain Falls
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1—18-Can Vertical Dryer, 46" face x 23" diameter.
1—Sargent Mixing Dryer, 16' long, New Fin type Heating coils, motor driven.
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1—Rice, Barton & Fales 8-color 60" Print Machine.
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1—Rodney Hunt Wring Master, 78", stainless steel immersion tank.
12,000 spindles Saco-Lowell and Mason Spinning, tape driven, 2¼" and 2" rings.
39—Saco-Lowell Cap Spinning Frames, 200 spindles each, 3½" gauge, 10" cylinders.
1—Pin Tenter Frame, 33' long x 66" wide with motors, etc.
1—Clip Tenter Frame, 97" x 95", equipped with hydraulic guiders, heating coils, motors.
3—60" Extractors, under slung, individually motor driven, with safety gates.
1—Minnich Boiling Press, 60" x 72" x 30".
2—Atlas Pickers, 24", 20", with motors.
2—Morrow Stitchers, Style 60-BU.
24—Copper Cans, 40" and 57" face x 60" diameter.
1—Hurricane 3-fan 6-section Dryer.
20—Crompton & Knowles 68" 4 x 4 Looms, motor driven.

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Consolidated is ready to serve your company by *Converting* your idle or surplus machinery into *Cash*. We are particularly interested in buying the following types of equipment: *Spinning, Carding, Weaving, Coating, Printing, etc., and Stainless Steel Dyeing and Finishing Machines.*

We strongly urge that you advise us immediately of any items that you have for sale; full specifications will be greatly appreciated.

Remember we are ready to buy from a *single item to a complete plant. ACT NOW. CONTACT CONSOLIDATED.*

166 C&K 2x1S3 automatic shuttle changing — motorized looms complete—will weave 52" cloth.
128 C&K 2x1 automatic bobbin changing looms complete—weaving 50" cloth.
1 Smith drum 7 arm stainless steel, motorized dyeing machine excellent condition.
42 C&K 5-5 automatic bobbin change motorized loom complete.
C&K 4x4 72" large shuttle boxes motorized, complete — weaving 68" cloth.
20 C&K 4x4 large shuttle boxes motorized loom — complete, weaving 52" cloth.
80 Atwood Monarch type double deck spinners, motorized, 184 spindles each, complete excellent condition.
70 Draper model C automatic shuttle changing motorized looms complete — weaving 46" cloth.
9 can Johnson slasher 68" wide gear box stretch control with 26" flange beam, late type beam head excellent condition.
Also 5 and 3 can slashers.
Complete line of winding, warping, quilling and coning machinery complete line also of mill supplies.

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1—540 end Cone Creel

1—15 Spindle Whitin-Schweiter, Automatic Filling bobbin Winder, equipped for Draper Bobbins, Motor Driven.

20—60" Reedspace C&K 4x1 Looms, 20 Harness Dobby, Side Center Filling Motion, Plain Bearing, 2 shift pick counters, individually motor driven.

C&K 2x1 54" Reedspace COMPLETELY REBUILT LOOMS, Roller Bearing, shock absorber, heavy bar, individually motor driven, 20 harness dobby.

13—C&K 2x1 50" Reedspace oversize shuttle box, individually motor driven, 20 hook double index dobbys, 2 shift pick clocks, 1½ beams per loom.

18—C&K 2x1 52" Reedspace, oversize shuttle box, individually motor driven, 20 hook double index dobbys, 2 shift pick clocks, 1½ beams per loom.

1—30 Spindle Lazenby Model D-Jr. Cop Winder. Machine was installed in 1945. It is built with Roller Trumpets. Spindles to wind paper ribbon to cops 1¼" dia. x 10".

C&K 4x1, 54" Reedspace COMPLETELY REBUILT Looms, with multiplier, roller bearing, shock absorber, heavy bar, individually motor driven, 20 harness dobby.

20—60" Reedspace C&K Plain looms, 20 harness double index dobby, plain bearings, 2 shift pick counters, motor driven.

2—20 Spindle Oswald Lever Back Winders.

4—3800 Hook Jacquard Machines—only

10—600 Hook Jacquard Machines.

20—#90 Universal Quillers and Coppers with and without bunchbuilders, excellent condition.

2—Measuring Machines 40" and 58" goods.

8 Yard Sipp Warpers 83" and 72"

Skein Winders, 60, 80, 100 spindles.

7—⅓ H.P. 220 Volt, 60 cycle, 3 phase 1800 R.P.M. General Electric Motors

48—½ H.P. 220 Volt, 60 cycle, 3 phase 1800 R.P.M. General Electric Motors

9—½ H.P. 220 Volt, 60 cycle, 3 phase 1800 R.P.M. General Electric Motors

4—½ H.P. 440 Volt, 60 cycle, 3 phase 1800 R.P.M. Rewound Motors

6—½ H.P. 550 Volt, 60 cycle, 3 phase 1800 R.P.M. General Electric Motors

17—¾ H.P. 220 Volt, 60 cycle, 3 phase 1200 R.P.M. New Tri-Clad General Electric Motors.

3—¾ H.P. 440 Volt, 60 cycle, 3 phase 1800 R.P.M. Rewound Motors

41—1¼ H.P. 550 Volt, 60 cycle, 3 phase, 1800 R.P.M. General Electric Motors

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8 Bramwell Card Feeders.
12 GE 1 HP B.B. Enclosed, 550 volt motors.
1 Worcester Warp Compressor & Beaming Head 60".
(NEW 1948) with Reeves Drive 550 volts.
100 Jack Spools 45½" BH 10" Fibre Heads.
4 Universal Winders, BB, disc quill, ind. motors.
Sargent Single & Double Cylinder Wool Openers 42"x36".
Cone Dusters 10' and 6' all iron, motor driven.

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Modern Rayon Dyeing, Finishing, & Printing Plant

Partial List of Machinery:

Residual Shrinkage Control—Dalglish Pin Tenter Range 100' long x 60", Micro Set Padder, Pre-Dryer, 80' housing and Cure Loop Dryer. Age 1947

2—Morrison Williams Ranges, 50" & 60" width. Age 1947

10—Van Vlaanderen Dye Jiggs, stainless steel, tensionless, 50 & 70"

1—Van Vlaanderen 90' tenter frame, 64" wide, w/Nat'l Housing

2—Rodney Hunt 12' stainless steel dye becks

1—Van Vlaanderen Hydraulic Calender, 50" width, 3 rolls, 80 ton

2—Van Vlaanderen Palmers 68' wide x 60" with quetches

1—Morrison Palmer 68" wide x 60", jacketed cylinder with quetches

1—Hinnekens Pneumatic Padder, 60" wide, 3 rolls, 12 ton

1—Butterworth Tenter Frame 50" long x 60" width, M.D.

1—Windsor & Jerauld Tenter Frame 80' long x 72" wide, M.D.

1—Butterworth Tenter Frame 30' long x 72" width M.D.

2—Rice, Barton & Fales Print Machine, 44" wide, 10 colors

1—Rice, Barton & Fales Print Machine, 45" wide, 14 colors

1—Textile Machinery Print Machine, 56" wide, 13 colors

1—Rice, Barton & Fales Print Machine, 64" wide, 8 colors

2—Textile Agers 18' x 20' long, 54" width

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100M—8x4 Woonsocket Bobbins.
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400M—8" Quills, Brass tipped and Bushed.

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1—48" x 74" wide Winser & Jerauld Tenter frame, with 85 top opening st. st. chain, also equipped with Andrews & Goodrich low housing.
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1—50" x 60" Textile Finishing Machinery Co. Tenter with Winser & Jerauld st. st. chain, top opening, also 90' Tenters.
1—54" Butterworth Backfiller.
1—60" Textile Finishing Machinery Co. heavy 2-roll Embossing Calender (Levant design).
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2 and 3-roll Pads, from 40" to 120", screw and lever or air set.
Motors A.C. or D.C., from 1 H.P. to 100, all voltages.
Spare Rubber or Brass Pad Rolls, all widths, 50" and 60" Dye Jiggs, st. st. lined, or all st. st.
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7—3', 6', 9' Stainless Steel Dye Becks
5—48 x 60" D&F 3-cylinder Iron Cards, with Peraltas, breasts and tape condensers
2—Stokes Fibre Cutters
1—36" Chenille Cutter
5—C&M Flock Cutters
1—67½" Yale Semi-Decator, 36" dia. cylinder
1—72" P&W Semi-Decator
1—Set French Drawing (16 machines)
1—82" P&S Rev. Stick Loop Dryer
1—50" Continuous Vat Dyeing Machine, complete (Late Model)
2—60" Hunter 1941, 3-cylinder double doffer Garnetts, complete with running out aprons, compression rolls, batt folders, slitters, P&S cone willow
140—40" Draper Model K Dobby Looms
100—52" C&K 2 x 1, 20 h. Looms
80—82" Draper Mod. D Automatic Looms
16—82" C&K Veribest Looms, 25 h. motor driven
100—92" C&K 4 x 1 Auto., 25 h. Looms, motor driven
1—50" 2-roll Starch Mangle
2—360 sp. J&B 3" gauge Mules, Brand New (in original crates)
4—45" 2 and 3 roll Padders
1—Printing Unit consisting of 2-50" RBF 5 and 8 color machines with (hydraulic forcing jack and polishing lathe)
1—72" Birch Bros. 4-burner Singer (like new)
1—60 ft. 41" opening Butterworth clip Tenter
1—66" x 40' Verduin Pin Tenter
1—70' x 148" Textile Pin Tenter, carbomatic gas burners, electric controls
1—Cocker 1948 High Speed Warper with one 1200 end and one 1520 end creel, with Reeves drive, motors and controls, used only six months.

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MODERN EQUIPMENT—PARTIAL LISTING

1—R. B. & F. 4 color 50" Print Machine, ten 60" x 23" Dry Cans, blanket washer, 25 H. P. B.T.A. motor.

1—R. B. & F. 7 color 60" Print Machine, 18—72" x 23" stainless steel Dry Cans, blanket washer, 50 H. P. B.T.A. motor.

300—Copper Print Rolls, 16"-24" circ. x 44"-60" width.

1—Hennikens 60" 2 roll Hydraulic Padder, stainless steel pan, motor and drive.

1—set 15 stainless steel Dry Cans, 72" x 23", ball bearing, motor and drive.

4—66" stainless steel Dye Jiggs, enclosed gears, M. D.

1—3 roll 66" Finishing Calender, 2 paper and one steam heated roll, M. D.

1—Open Washer, 4 compartments, 78" squeeze rolls, Pump and motor.

1—Tenter Frame 60" x 50', enclosed gears, stainless steel clips, gas heat, motor and reeves.

1—set 21—54" x 23" copper Dry Cans, Motor and reeves.

1—set 15 Dry Cans, 72" x 23" stainless steel and copper, motor and reeves.

1—3 section Rope Washer, stainless steel reels, M. D., Motor and reeves.

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6 C & K 4x4 72" R. S.
56 C & K 4x1 56" R. S.
4 C & K 110" R. S. 4x4
2 C & K 100" R. S. 4x4
12 C & K 92" R. S. 4x1 Automatic
24 C & K 4x1 Automatic 47" R.S.
18 C & K 4x1 Automatic 82" R.S.
56 Draper Automatic 47" R.S.
5 C & K 4x4 82" R.S.

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1 Jostrom fabric conditioner 64"
1 14 can Butterworth dryer 142"
1 19 can Butterworth dryer 72"
1 V.V. 60" Quetch
1 Textile Tester Frame 52" wide 40' long
1 Butterworth T.F. 80'
4 Three (3) Roll Padders 45"
30 50" Dry Cans
1 Birch Bros. Scutcher & Vacuum 60"

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12 Atwood Single Deck Utility Spinners
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3 Atwood D.D. Twisters—184 Spindles Each. Motorized.
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8 Atwood 5 B—for Silk—Motorized.
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1 Whitin D.D. Uptwister—H'dless Pkg.
30M Spinner Spools—4½" T. x 3¼" H.
80M 7" Paper Cops with Metal Feelers—Thin Lip—Like New.
60M Fibre Winder Spools 3⅛" T. x 3" H.
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36 all metal loom beams (McBride & Milton for C & K 72" looms) with 22" adjustable threaded type cast iron flanges complete with ratchets. Barrels threaded 8" on either end for adjustment. All these beams less than 1 year old. Some have run only one warp. Seller has purchased wider looms. Priced for quick sale at only $50 each F.O.B. Philadelphia.

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4—D&F 60x60 Woolen Cards, 3 cyls. Tape Condensers.
1—Kitson Rag Picker 15"x40"
34—Universal 290 Winders, Bunch Builders.
12—C&K 52" W-2 Automatic Looms, 4x1 Box.
26—C&K 52" convertible-all purpose Looms, Mtr. Drive.
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22—4 x 4 pick and pick non-automatic C & K shaft looms and all auxiliary equipment.

FS-9585, Textile World
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"Opportunity" Advertising:
Think
"SEARCHLIGHT"
First

Handling Cashmere

(Continued from page 224)

same shade as in dyeing sheep's wool, provided of course that the basic color of the hair submitted to the dyer is identical. It is also clear that in lubricating the fibers for proper spinning a different amount of emulsion will be needed from that for any other natural fiber. Because of its fineness, cashmere has a tendency to "matt up" or bulk up, in which condition dyestuff cannot properly penetrate. Uneven and streaky dyeing sometimes is the result. To avoid the "matting up" of the fiber in the dyeing process, a solution is to divide the dye kettle like a building into a few floors, as indicated in the accompanying sketch.

A dye kettle with a capacity of 500 lb. is divided with three or more floors. Each floor has a perforated bottom to permit the dyestuff to penetrate properly. Each floor (if one uses four floors) has a load of about 125 lb., an amount easier for dyestuff to penetrate than 500 lb. The evenness of the color is better. By the use of this method one can dye a larger poundage of cashmere with the same amount of liquor than could be done with poorer penetration. When this method is introduced, the cost of dyeing is greatly reduced because larger lots can be handled properly at the same time.

The mill man, based upon his experience, must find the most suitable size of dye lots that can be handled best, and the best amount of lubricant for good spinning. Or he may introduce intermediate processes to reduce the "matting up."

Aside from the special care that must be exercised in handling cashmere, spinning of the yarn and weaving of the cloth is done just the same as sheep's wools.

The carding of cashmere fibers should be done on a carding machine covered with very fine wire, because of the fineness of the fiber and also the damage that can be done by using coarse wire on the card. The card itself has to run rather slowly; otherwise, the fine cashmere fiber suffers too much.

The smoothness of the cashmere fiber and its relatively short staple make it necessary to insert a greater amount of twist when spinning a fine-count yarn to insure sufficient strength in subsequent operations. A greater number of fibers per yarn cross-section does not alone suffice to make up for the shorter length of the cashmere fibers.

As in spinning and weaving, the

(Continued on page 298)

AN EGAN LIQUIDATION:

Surplus

WOOL SCOURING EQUIPMENT

5 Trains of Wool Scouring, Hunter & Sargent, all 48" working width. Nos. 1 and 2 Sets with 6 bowls; No. 3 Set with 5 bowls; No. 4 Set with 4 bowls; No. 5 Set with 3 bowls. All in operation at the moment. All equipped with stainless steel rakes. Some lines with rubber-lined and some with lead-lined bowls.

5 Sargent Wool Openers, single cylinder, 42"x36"

4 Sargent Wool Openers, double cylinder, 42" x 36"

3 Sargent Bagging Machines, 32¾" hole

16 Sargent 18' Cone Dusters, iron construction, motorized

18 Sargent 6' Cone Dusters, all iron, motorized

26 Sets Sargent Crush Rolls, 24" x 9" diam., motorized.

8 Sturdevant Dust Blowers, motorized

8 Sturdevant Stock Blowers, with motors

2 Sturdevant Raw Stock Dryers, 8' wide, all steel construction, with motors

1 Sturdevant Impact Raw Stock Dryer, 8' apron

3 Sargent Raw Stock Dryers, single apron 54" wide, 4 fans, coil heating

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C-K, 56" Reed Space. 2x1 Automatic Shuttle Change

101" SIPP WARPER
Hi-Speed, All Metal With 880-End Mazagine Creel.

S-5 LOOMS
56" R.S., 2x1 Automatic Bobbin Change

4 x 4 C-K LOOMS, 60", 72" COMPLETE WITH NEW HALTON JACQUARDS, 1304 HOOK.

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BARBER-COLMAN DRAWING-IN FRAME, 86", COMPLETELY EQUIPPED

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17—30" dia 50" face copper dry cans.
9—23" dia 45" face copper cans.

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New and Used Finishing Machinery Specializing in Dry Can Machinery

Fall River, Mass.

FOR SALE!

1—Morrison 50" Face Duplex Sanforizer
1—Textile 3-roll 64" Face Friction Calender
1—Butterworth 5-roll 80" Face Rolling Calender
1—Butterworth Tenter 30' Long for 30" to 100" Cloth. SS Clips
1—Johnson 5 SS Cylinder 52" Rayon Slasher
1—Cocker High Speed Warper, 2 Magazine Creels, Age 1948
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(*Continued from page 296*)

finisher of the woven goods must get fullest advantage from the valued characteristics.

Many fabrics are made out of cashmere throughout the weaving and knitting branches of the industry. It is true that Persian has not as much of the silky touch as the Chinese, but the Persian has definite advantages from the point of view that the Persian fiber is a much stronger and more resistant fiber (see overcoats). Therefore, the higher wearability overshadows the silkiness of the Chinese quality to a certain extent.

Filament Rayon Dyeing

(*Continued from page 121*)

checked regularly. A Shore type 00 Durometer is recommended by Foster Machine Co. for this purpose. A reading of 30 to 35 indicates correct density for rayon.

Yarn tension should be kept low. Foster recommends 4 to 4½ g. for 150-den. viscose and 7 g. for 150-den. acetate at the start of the package and slightly higher tensions for coarser deniers. Stead & Miller, however, is winding 300-den. bright viscose with only 4 g. of tension.

Any standard tensiometer is suitable for checking the tension, but a low-range instrument (0 to 25 g.) will enable you to get finer readings.

To get the correct tension, here's what to do:

Use a swinging-gate tension device, and do not use a slub catcher.

Put the tension rod in the lowest hole on the tension lever to get the slowest possible release of tension as the package builds up.

Set the tension lever just off its vertical position, with the pressure roll 1½ in. from the dye tube. Use a light balance drop wire, such as would be used on nylon hosiery yarn. Then put on a tension weight to give the desired tensiometer meter reading.

2. Color Selection

Colors must be carefully selected if you are going to do a good job. Some dyes have not shown affinity for rayon under the conditions needed for package-dyeing filament rayon. Du Pont and Central Yarn & Dyeing have done a lot of experimental work on various colors.

In general, colors, particularly direct dyes, must be selected for maximum affinity to rayon without the addition of salt.

Central does all pilot work on skein samples first, then progresses to a

sample 1- to 6-lb. machine. All colors must be proved successful in the lab before they are used in the plant.

So far, directs, developed, vats, and naphthols have been used with good results.

3. Dyeing

The detailed dyeing techniques used differ slightly. All methods require the use of cup separators to hold the package ends in place before dyeing and during extracting and drying. The selvages must be broken by hand. Stead & Miller wets out for a few minutes at 140° F. with Du Pont Avitex AD. Any sulphonated fatty acid will do. It has a swelling tendency and acts as a penetrant and softener.

The dyebath is slightly alkaline, with a pH of 7.3 to 7.4; and it is adjusted with soda ash.

Half of the color is added with the flow inside out and the other half outside in, or vise versa. Reversals occur about every 5 min.

The dyebath is kept at 140° F. for 10 min. It is raised to 160° F. for 10 min., then to 180° F. for 10 min. It is raised to 195° F. with some colors.

Here, Du Pont recommends a different procedure. It recommends that the dyebath be brought to 180 to 190° F. before the color is added. The color is added in the same way, and dyeing is for about 30 min.

In all cases, the salt is then added very slowly. Stead & Miller adds the salt over a 20-min. period and runs for 10 min. longer. Du Pont adds over the entire 30-min. period. Both methods give good exhaustion, and the slow addition of the salt is one of the major factors in the success of package-dyeing the continuous-filament rayon. Then, one cold rinse is given with Avitex AD for 10 min. The tank can be filled up, and a running wash is not necessary.

Stead & Miller uses a Gaston County vacuum extractor, and Central uses a Smith & Drum individual basket-type extractor. Both types appear to do the job well, and a pressure extractor would probably do an excellent job also.

Conventional centrifugal extractors would probably cause the package to fly apart because the yarn loosens up as it dries.

A blower-type dryer has proved most successful at Stead & Miller. The experience here was that an oven dried the outer layers of the package too quickly. However, Central is getting good resutls with oven-drying in its Fiberglas-insulated ovens equipped with Foxboro controls.

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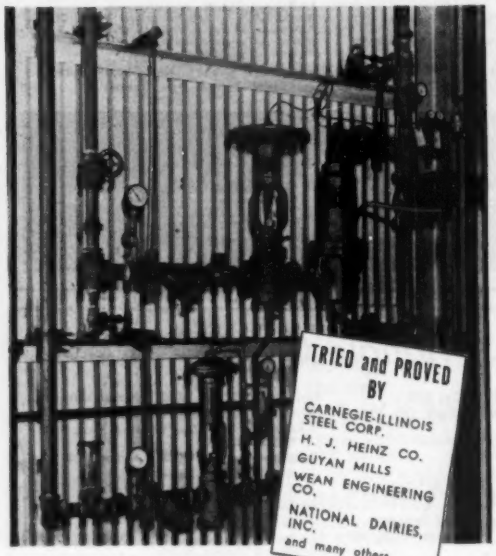

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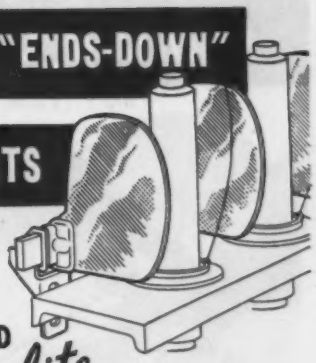

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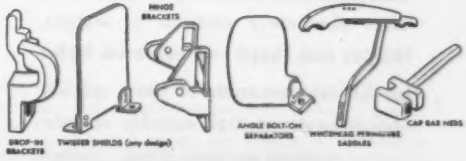

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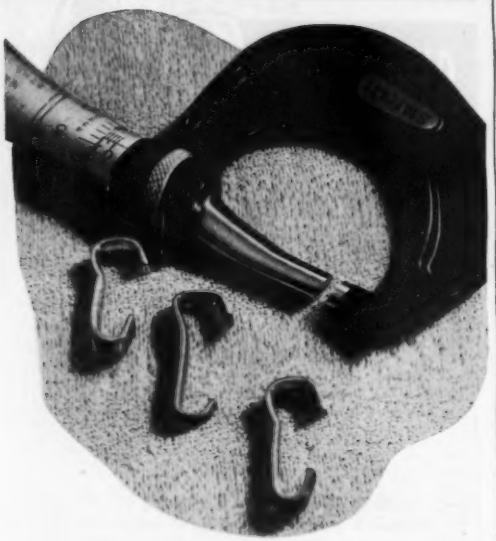

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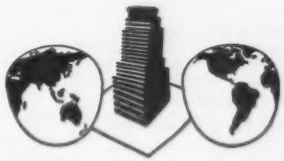

▸ **Brief Summaries in Spanish, French, and German of the Major Feature Articles in This Month's Issue**

Español

Hemos añadido este suplemento a la edición completa de TEXTILE WORLD de los Estados Unidos en beneficio de nuestros estimados lectores del extranjero. En las columnas siguientes encontrará usted información sobre los artículos importantes que aparecen en las páginas de este número—información que puede ayudarle a aquilatar cada uno de los artículos originales sacándoles mayor provecho en su uso individual.

TEXTILE WORLD espera que estas traducciones breves, al idioma que es más familiar para usted, le sirvan de guía para decidir usted mismo cuáles artículos le conviene traducir por su propia cuenta, dado su interés especial en las diferentes fases de nuestra gran industria textilera mundial. Esas traducciones serán de gran valor práctico para aquellas personas de su organización que tengan dificultades con la terminología de tejidos del idioma inglés.

Véase la página 3 de las hojas corrientes de este número para la relación completa del contenido en inglés.

Français

Ce supplément a été ajouté à notre édition régulière américaine à l'intention de nos estimés clients d'outre-mer. Dans les colonnes que suivent vous trouverez des renseignements concernant les articles principaux de ce numéro, renseignements qui vous permettront de juger de l'intérêt que ces articles peuvent avoir dans votre cas particulier.

TEXTILE WORLD espère que ces résumés présentés dans une langue qui vous est plus familière vous permettront de décider quels sont les articles qui vous intéressent suffisamment pour que vous les fassiez traduire plus en long par un traducteur de votre ville. Ces traductions seraient utiles aux membres de votre firme non familiarisés avec la terminologie anglaise de l'industrie textile.

Consultez aussi la Table des Matières, page 3 de ce numéro.

Deutsch

Diese Beilage wurde der vollstaendigen Vereinigten Staaten Ausgabe der TEXTILE WORLD zur Erleichterung fuer unsere geschaetzten Leser in Uebersee zugefuegt. In den nachfolgenden Spalten werden Sie von den wichtigsten Fachaufsaetzen, die in diesem Heft erscheinen, in Kenntnis gesetzt, um Ihnen in der Auswahl der Original Aufsaetze, die fuer Sie von besonderem Interesse sind, behilflich zu sein.

Die TEXTILE WORLD hofft, dass Sie sich durch diese kurzen Uebersetzungen in eine Sprache mit der Sie vielleicht mehr vertraut sind, veranlasst fuehlen, Fachaufsaetze die von besonderen Interesse auf dem Gebiet der grossen und weltumspannenden Textil Industrie sind, bei lokalen Uebersetzern ausarbeiten zu lassen. Solche Uebersetzungen waeren von praktischem Wert fuer diejenigen in Ihrem Unternehmen, die Schwierigkeiten mit englischen Fachausdruecken haben.

Siehe Seite 3 der Original Ausgabe fuer das vollstaendige Inhaltsverzeichnis in englischer Sprache.

Página 110

Conservación de la Sala de Suministros. Cuando hay poca existencia de materias primas, una sala de suministros mal distribuida puede significar paro de producción de las máquinas por falta de piezas. En este artículo se ofrecen medios de organizar la sala de suministros y también un sistema de archivo de existencias, así como fórmulas para determinar los niveles buenos del máximo y mínimo de existencias. Se brindan sugerencias para el pedido correcto de piezas.

Page 110

Magasin de pièces de rechange. Dans des périodes où les pièces de rechange sont difficiles à obtenir, un magasin de pièces de rechange mal inventorié peut vous laisser à court de pièces. Le but de cet article est de donner un système pratique pour l'organisation du stock, son contrôle, et pour déterminer ce qui devrait constituer le maximum et le minimum en magasin pour les différentes pièces. L'auteur vous donne aussi ses idées quant à la meilleure façon de commander les pièces de rechange.

Seite 110

Instandhaltung des Ersatzteile-Magazin. Wenn Rohmaterialien schwer zu beschaffen sind, kann ein schlecht gefuehrter Vorratsraum, aus Mangel an Ersatzteilen, zum Stillstand von Maschinen fuehren. In diesem Artikel werden Wege zur Organisierung des Vorratsraumes angefuehrt und ein System fuers Lagerverzeichnis sowie Formeln fuer gute maximum und minimum Hoehe des Lagers gegeben, als auch Vorschlaege zum Einordnen von verschiedenen Teilen.

Página 113

Las Carretillas de Horquilla Reducen los Costos de Manipulación. Una blanquería ha reducido el 65 por ciento de los costos de manipulación en el departamento de almacenaje de la producción con una sola carretilla de agarre que elimina comple-

Page 113

Les chariots mécaniques diminuent les frais de manipulation. Une blanchisserie a réduit ses frais de manutention de 65% dans le département d'entreposage, grâce à l'emploi d'un chariot mécanique qui rend superflue toute manutention ma-

Seite 113

Hebelastkarren verringern Ladekosten. Eine Bleicherei hat die Ladekosten in der Wareneinlagerung, durch Verwendung eines Karrens mit Klemmvorrichtung, um 65% verringert, unter Eliminierung jedweder Handhabung. Eine Baumwollfabrik

tamente la manipulación manual. Una fábrica de hilos de algodón ha reducido un 50 por ciento los gastos de manipulación de balas con una sola carretilla liviana de horquilla levantadora. Esta carretilla se usa para apilar las balas y para cargar las cajas de hilos en los camiones de transporte.

Página 114

La Limpieza de la Fábrica Significa Medias de Calidad. Una planta de medias del estado de Georgia tiene un programa que estipula la limpieza en sus operaciones. Se han colocado planchas de metal laminado debajo de las máquinas para evitar que el aceite manche el piso. Se han mejorado los métodos de lubricación. Se han reemplazado los tubos metálicos, para las medias acabadas, con azulejos de composición. Se han construido anaqueles para almacenar las medias que van a remallarse y para almacenaje de las existencias.

Página 116

Propiedades de la Fibra de Algodón. La cantidad y la duración de las lluvias tienen una influencia grande en las propiedades de la fibra de la misma variedad de algodón cultivada en la misma región. El conocimiento de las variedades cultivadas y de las condiciones del tiempo que haya prevalecido en una región dada ayudarán grandemente en la selección adaptable del algodón al precio más favorable. El aumento de la resistencia de la fibra causado por la precipitación favorable de lluvia puede compensar grandemente cualquier pérdida en la longitud de la fibra considerada para avaluar los hilos acabados.

Página 118

Humedad Relativa en la Elaboración de la Lana. Muy a menudo pasa desapercibida la importancia de la regulación de la humedad en la elaboración de la lana. Las ventajas de la conservación del contenido de humedad y aire comprenden: (1) reducción de las cantidades de emulsión necesarias; (2) eliminación de la electricidad estática; (3) disminución de la cantidad de borrilla de la elaboración; (4) aumento en la eficiencia de las máquinas; y (5) menor control del peso y número de hilo y mecha.

Página 120

Teñido en Bobina de Rayón de Filamento Continuo. Sólo desde hace poco tiempo se ha teñido en escala comercial el rayón de filamento continuo en bobinas en el sur de los E.U.A. Este artículo ofrece datos técnicos sobre este tema, basados en la experiencia de las tintorerías. El secreto del método está en el arrollado flojo, paquetes uniformes y adición lenta de sal con el propósito de agotamiento. La hidroextracción y el teñido deben ser realizados de manera tal que no se dañen los paquetes flojos.

Página 122

Enderezamiento de Agujas. Los altos jornales pagados a las tejedoras son una nuelle. Une filatre de coton a de son côté réalisé une économie de 50% dans la manutention des balles. Elle emploie à cet effet un "truck" de manoeuvre à fourches. Ce "truck" pour intérieurs d'usines sert à empiler les balles et à charger les cartons de fils sur les camions.

Page 114

Veillez aux détails et vous aurez des produits de qualité. Une usine de bonneterie de la Géorgie a un programme d'entretien dont le thème est la propreté dans tous les détails. Des tôles ont éte placées sous tous les métiers, le but étant que l'huile n'atteigne pas les planchers. Les procédés de graissage ont été ameliorés. Les tuyaux métalliques sur lesquels on plaçait les bas ont été supprimés et ont été remplacés par des surfaces lisses en faïence. Les bas sont placés dan des casiers en attendant le remaillage. C'est là également qu'on les garde, qu'on les stocke et qu'on en fait l'inventaire.

Page 116

Propriétés des fibres de coton. Le volume de la chute des pluies et la période de leur chute influencent fortement les propriétés d'un genre donné de coton cultivé dans une région déterminée. Pour cette raison la connaissance du genre particulier de fibre de coton cultivé et des conditions climatologiques qui existèrent pendant la saison de croissance assisteront dans le choix de coton ayant les caractéristiques voulues à un prix favorable. Un accroissement de la résistance de la fibre dû à une chute de pluies propice contrebalancera aisément le fait que la fibre sera peut-être plus courte. Ces facteurs doivent être considérés lors de l'evaluation du genre de fil que l'on peut obtenir d'un coton déterminé.

Page 118

Du degré relatif d'humidité dans le traitement des laines. On néglige souvent d'attacher l'importance voulue à l'emploi du propre degré d'humidité dans les différentes phases du traitement des laines. Voici quelques uns des avantages que vous retirerez d'une attention attentive à cette question: (1) Diminution de la consommation d'huile d'ensimage, (2) suppression de l'électricité statique, (3) économie résultant de la diminution de duvet, (4) augmentation du rendement du matériel, et (5) production d'une meilleure mèche, d'un meilleur fil et meilleur contrôle du poids de ceux-ci.

Page 120

Teinture de rayonne en bobines. Ce n'est que récemment que le Sud s'est mis à teindre le fil de rayonne bobiné sur une échelle industrielle. Cet article donne des renseignements techniques basés sur l'expérience d'une teinturerie. Le secret du succès réside dans un bobinage sous faible tension, dans des bobines de qualité uniforme. Autre facteur important: les sels doivent être ajoutés aux bains lentement. L'essorage et le séchage doivent s'effectuer de façon à ne pas endommager les bobines.

hat Ballenladekosten um 50% durch Verwendung eines leichten Lastwagen mit Gabel-Hebevorrichtung herabgesetzt. Dieser Lastwagen wird zum Lagern von Ballen und Aufladen von Ueberlandlastwagen mit Garnkartons verwendet.

Seite 114

"Gute Haushaltung" verspricht Qualitaetsstruempfe. Eine Fabrik in Georgia hat ein Reinlichkeit betonendes Arbeitsprogramm. Duenne Metallplatten, unter den Maschinen, verhindern Oelflecke auf dem Boden. Schmierungstechnik wurde verbessert. Metallrohre fuer fertige Struempfe wurden durch Kacheln ersetzt. Faecher wurden zur Aufbewahrung der Struempfe bis zur letzten Ausfertigung und fuer Lagerzwecke gebaut.

Seite 116

Beschaffenheit der Baumwollfaser. Regenmenge und -Dauer ueben einen wichtigen Einfluss auf die Faserbeschaffenheit derselben Baumwollart, die in derselben Gegend waechst, aus. Kenntnis der verschiedenen gepflanzten Arten und Witterungsverhaeltnisse, die in einer bestimmten Gegend herrschten, erweisen sich als sehr behilflich in der Auswahl der richtigen Baumwollsorte, zum guenstigsten Preis. Erhoehte Faserstaerke, hervorgerufen durch guenstigen Regenfall, kann jeden Verlust an Stapellaenge, notwendig bei Schaetzung des fertigen Garnes, mehr als wettmachen.

Seite 118

Relative Feuchtigkeit in Wollverfahren. Die Wichtigkeit von kontrollierter Feuchtigkeit im Wollverfahren wird oft uebersehen. Vorteile von gleichmaessiger Luftfeuchtigkeit sind: (1) geringere Mengen von Spickoel, (2) Vermeidung von statischer Elektrizitaet, (3) verminderte Erzeugung von Flug, (4) erhoehte Maschinenleistung, (5) besseres Vorgarn, gleichmaessigere Garnnummern und Gewichtskontrolle.

Seite 120

Buendelfaerben von Kunstseidengarnen. Jetzt wird auch im Sueden Kunstseidengarn, auf kommerzieller Basis, in Buendeln gefaerbt. Dieser Artikel beschreibt fachtechnische Details, gestuetzt auf Erfahrungen in der Faerberei. Das Geheimnis der Methode ist: weiches Haspeln, gleich grosse Buendel und langsames Hinzufuegen von Salz fuer Exhaustzwecke. Extraktion und Trocknen muss derart geschehen, dass das lose Buendel nicht beschaedigt wird.

Seite 122

Geradebiegen der Nadeln. Stricker werden letzten Endes gut bezahlt, wenn sie geschickt im Geradebiegen der Nadeln, Randhaken und Deckernadeln sind. Es gibt keine Standard-Methode fuers Geradebiegen der Nadeln. Gute Beleuchtung ist notwendig. Geradezubiegende Teile sind der Reihenfolge nach: der Nadel-

buena inversión debido a que son expertas en el enderezamiento de las agujas, ganchos de dobladillo y punzones de menguar. Para el enderezamiento de agujas y punzones no existe ningún método de norma. El buen alumbrado es esencial. Las piezas que se van a enderezar son, por orden, el vástago, el pico o ganchillo de la aguja, la punta del gancho y la ranura. Se ofrecen datos sobre la técnica manual.

Página 124

Viaje Pictórico por una Acabaduría del Sur de los E. U. A. La adaptabilidad de las anchuras de telas y su construcción son operaciones destacantes en la nueva fábrica de la Delta Finishing Co. en la Carolina del Sur. La moderna planta puede manejar una gran diversidad de telas de algodón y mezcladas. La buena distribución significa el mínimo de manipulación de los materiales, y la buena proyección técnica proporciona las mejores condiciones posibles de trabajo.

Página 127

Hilos Enredados. Este artículo relaciona más de cincuenta causas del enredo de los hilos, las cuales varían de ajustes incorrectos o pesos inadecuados en la hilatura a la alineación de los telares. Cada causa está identificada con el remedio correcto para evitar la repetición del enredo de los hilos por esa causa individual. Esta es una excelente lista de verificación para los localizadores de dificultades en la producción.

Página 128

Géneros Tubulares. Una fábrica de tejidos de Alabama ha desarrollado un sistema para utilizar una combinación de elaboradora y secadora sin tensión, después del aprestado en húmedo, que resulta en géneros tubulares suaves y de alta calidad. La combinación se acopla con el secado al vapor en el acabado final. El nuevo equipo elabora en un solo turno lo que antes requería dos máquinas antiguas trabajando tres turnos.

Página 130

Efectos de la Homogenización. Un estudio para determinar si la homogenización mejora el encolado de urdimbres, y por qué, muestra qué el encolado de almidón homogenizado proporciona a las fábricas un aumento en la lisura de fibra en la superficie de los hilos, ligadura de fibra más eficiente y mejores cualidades del hilo. El artículo describe una teoría de ligadura no rígida de la fibra (cuando se usa cola homogenizada), y una nueva máquina ensayadora para la verificación de la "calada" del encolado.

Página 139

La Manipulación del Cachemir. Esta descripción de los diversos tipos de cachemir, su origen y algunas de sus propiedades físicas y químicas comprende también sugerencias para el teñido de la fibra y su hilatura, para convertirla en hilos. Se

Page 122

Dressage d'aiguilles. Les tricoteurs sont en définitive payés pour leur habilité au dressage d'aiguilles, crochets de rebroussage ou de retournage de revers et poinçons de diminution. Il n'existe pour aucun de ces organes de système de réglage standardisé. Un excellent éclairage est essentiel. Les parties à dresser sont le fût, la pointe et son extrêmité ainsi que le chas. L'article constitue une description technique détaillée.

Page 124

Un photographe visite un apprêt dans le Sud. Une adaptation aisée à des qualités et à des largeurs variables sont les faits saillants d'une visite à la Delta Finishing Co dans la Caroline du Sud. Cette nouvelle usine traite de nombreuses qualités de tissus de coton et de genres mixtes. Une disposition bien étudiée des machines permet de faire passer les tissus avec un minimum de perte de temps. Une belle étude technique de tous les détails de l'usine a permis d'obtenir d'excellentes conditions de travail.

Page 127

Enchevêtrement de fils. Cet article donne une liste de plus de 50 causes d'enchevêtrement de fils, allant d'erreurs de réglage des métiers de filature, de l'emploi de poids inappropriés, aux métiers hors d'équerre. Pour chacune des causes, on cite un remède. Ce système de contrôle rendra service au personnel technique.

Page 128

Tricots tubulaires. Un tricotage de l'Alabama utilise une machine de finissage pour tricot tubulaire, qu'il emploie pour les tricots qui ont passé par l'apprêt au mouillé. Cette machine permet de travailler sans tension; elle fait office de séchoir en même temps et donne un beau fini à maille relâchée, sans élongation. Le système est combiné avec le séchage à la vapeur, dans l'apprêt final. Cette installation donne une production équivalente à celle produite antérieurement par deux machines travaillant à trois équipes, tout en ne fonctionnant qu'en simple équipe.

Page 130

Résultats de l'homogénéisation. Une étude pour déterminer si l'homogénéisation de la masse d'encollage constitue une amélioration de cette opération a démontré que cette opération permet d'obtenir un fil dont la fibre est plus couchée et adhère mieux, ainsi que d'une qualité supérieure en général. L'article décrit une théorie d'adhésion plastique (résultant de l'emploi de l'homogénéisation) ainsi qu'un nouvel appareil de contrôle permettant de déterminer ce que les fils perdent en matière d'encollage par "détachage."

Page 139

Traitement de la laine Cachemire. L'article dérit les diverses espèces de laine de Cachemire, ses origines, propriétés chimi-

koerper, der Nadelbart, die Oeffnung desselben, die Hakenspitze des Bartes und der Furche. Die Handtechnik wird detailliert angegeben.

Seite 124

Kameratour einer Appretur im Sueden. Flexibilitaet der Warenbreite und Konstruktion, sind Hoehepunkte im Verfahren in der Sued-Carolina Fabrik der Delta Appretur Co. Diese moderne Fabrik kann vielerlei Baumwoll- und Mischgewebe behandeln. Gute Anlage gewaehrleistet ein Minimum an Materialhandhabung und gute Auslegung der Maschinen ergibt bestmoeglichste Arbeitsbedingungen.

Seite 127

Verwickeltes Garn. Ueber 50 Ursachen von verwickeltem Garn werden in diesem Artikel verzeichnet, angefangen von unrichtiger Einstellung oder Gewichten im Spinnen bis zum Vorrichten im Webstuhl. Fuer jede Ursache wird die richtige Abhilfe angefuehrt, um eine Wiederverknotung des Garnes aus demselben Grunde zu verhindern. Dies ist ein ausgezeichnetes Hilfsmittel fuer Produktions-Kontrollfachleute.

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Schlauchstrickwaren. Eine Strickwarenfabrik in Alabama hat ein System ausgearbeitet, wobei ein spannungsloses Kombinationsverfahren mit Trockner nach der Nassappretur verwendet wird, wodurch ein entspanntes und hochwertiges Schlauchstrickfabrikat erzeugt wird. Diese Verbindung wird mit der Dampftrocknung in der letzten Appreturphase in Einklang gebracht. Diese neue Ausruestung leistet in einer einzigen Schichte soviel als frueher 2 veraltete Maschinen in 3 Schichten.

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Wirkung von Mischen mit gleichartigen Bestandteilen. Eine Studie zu bestimmen, ob Mischen von gleichartigen Bestandteilen die Kettenschlichte verbessert, und wodurch, ergibt, dass Fabriken, die richtig gemischte Staerkeschlichte verwenden, eine erhoehte Faseraufage am Garn, wirksame Faserverklebung und verbesserte Garneigenschaften erzielten. Eine Theorie von loser Faserverklebung, (wenn "homogenized" Schlichte verwendet wird) und eine neue Versuchsmaschine, um das Abfallen der Schlichte zu messen, wird beschrieben.

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Behandlung von Kaschmir. Die Beschreibung von verschiedenen Kaschmirarten, ihre Herkunft und einige ihrer physikalischen und chemischen Eigenschaften, enthaelt auch Vorschlaege, wie die Fasern zu faerben und zu Garn zu spinnen sind. Verwendung von geteilten Farbkesseln wird angeraten, da Kaschmir zum Verfilzen neigt. Krempelgeschwindigkeit ist langsamer als fuer andere Wolle, Beschlaege feiner und, zufolge der kuerzeren Faser,

aconseja el uso de una barca de teñir dividida debido a la tendencia del cachemir a "enredarse." La velocidad de cardadura es más lenta que con la lana corriente, la guarnición de carda es más fina, y la hilatura requiere más torcido debido a que las fibras hiladas son más cortas.

Página 141

Eficiencia de la Instalación Productora de Vapor. En la fábrica del Sur que se describe, cada una de las dos calderas se inspecciona, limpia y repara después de tres meses de operación. Cada caldera soporta la carga completa de la fábrica durante unos seis meses del año, y luego se mantiene en reserva. Las verificaciones diarias por análisis químicos, consumo de combustible y agua evaporada son usadas para graduar las calderas para obtener el máximo de eficiencia. La calefacción de la fábrica puede controlarse por medio de termóstatos colocados en las secciones de producción.

Página 145

Carga de Trabajo del Chapón de Carda. Un experimento interesante en una carda de algodón indica que un chapón se recarga de fibra antes de que llegue a la posición del décimo chapón y que continúa recogiendo basura hasta que sale de la cintra de carda. Bajo las condiciones normales usadas en el ensayo, la distribución de la fibra de todas las mermas de los chapones mostró la remoción aproximada del 65% de fibra y el 35% de basura, en una remoción aproximada del 3% del total de material en rama que pasaba por ella.

ques et physiques. Il propose également des systèmes de filature et de teinture. Vu la tendance du cachemire à feutrer, l'emploi d'une cuve de teinture divisé est recommandé. La vitesse de cardage est moindre que celle employée pour la laine, et le numéro du fil d'acier des garnitures de carde est plus fin. Plus de torsion est requise en filature, les fibres étant plus courtes.

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Rendement des chaudières. Dans l'usine du Sud décrite dans cet article chacune des deux chaudières est inspectée, nettoyée et réparée après chaque trois mois d'activité. Chacune de ces chaudières fournit toute la vapeur nécessitée par l'usine pendant à peu près six mois de l'année. Elle reste ensuite en réserve. Des contrôles journaliers portant sur une analyse chimique, la consommation de combustible et l'évaporation de l'eau servent à régler les chaudières pour en obtenir le maximum de rendement. Un contrôle du chauffage de l'usine peut s'obtenir au moyen de thermostats placés en divers endroits.

Page 145

Bourrage des chapeaux marchants de cardes. Une expérience intéressante a révélé qu'un chapeau marchant de carde est généralement bourré de fibres lorsqu'il atteint la position du dixième chapeau. Il continue à ramasser des déchets jusqu'à son dernier contact avec le grand tambour. Lors d'un essai fait dans des conditions standardisées l'examen des débourrages donna 65% de fibres et 35% d'impuretés avec une extraction totale de 3% du coton cardé.

braucht man beim Spinnen des Garnes mehr Drehung.

Seite 141

Heizhausanlage-Leistungsfaehigkeit. In der beschriebenen Fabrik im Sueden, wird jeder der zwei Dampfkessel alle 3 Monate untersucht, gereinigt und repariert. Jeder Heizkessel allein beliefert die Fabrik fuer ca. 6 Monate und wird dann ausser Kraft gesetzt. Taegliche Kontrollen der chemischen Analyse, Brennstoffverbrauch und Wasserverdunstung dienen dazu, um Hoechstleistung des Kessels zu erzielen. Heizung der Fabriksraeume kann durch in der Erzeugungsarea angebrachten Thermostats reguliert werden.

Seite 145

Arbeitsbelastung der Deckel Karde (Baumwoll Karde). Ein interessanter Versuch auf einer Baumwoll Karde ergab, dass der wandernde Deckel, sobald er die Position des zehnten Deckels erreicht, mit Fasern voll gefuellt ist. Er nimmt andauernd Abfall auf, bis er die Biegung verlaesst. Dieser Versuch unter Standard Bedingungen ergab, dass das Faser-Bild von allen Deckeln Strips 65% Fasern und 35% Abfall zeigte, bei einer durchschnittlichen ca. 3% igen Abfallentfernung vom durchlaufenden Material.

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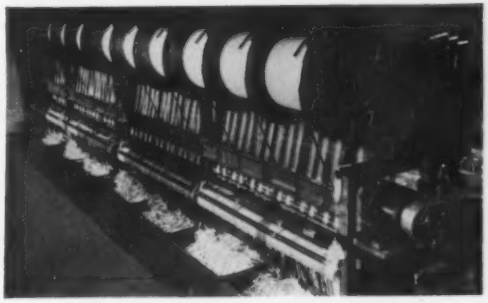

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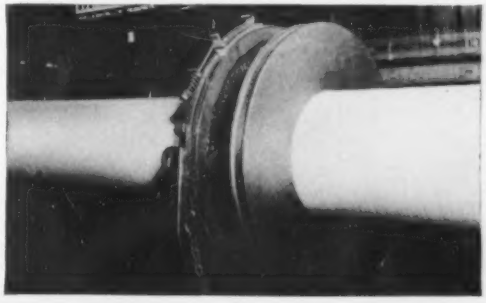

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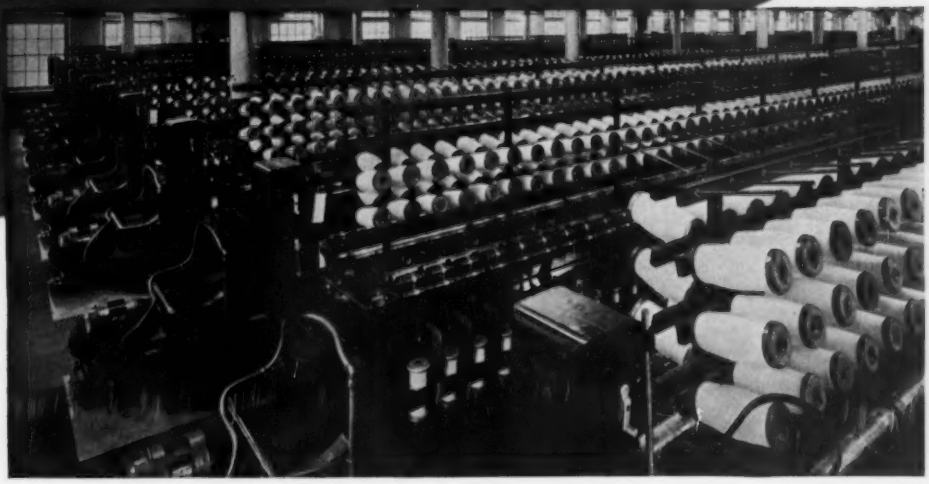

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